

SOME
HINTS
ON
LEARNING
TO
DRAW





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A CLANDESTINE INTERVIEW

SOME HINTS

ON

LEARNING TO DRAW

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PREFACE

I HAVE much pleasure in expressing here my most sincere thanks to the following artists, who have so kindly and willingly lent, or obtained for me, drawings for this book :—

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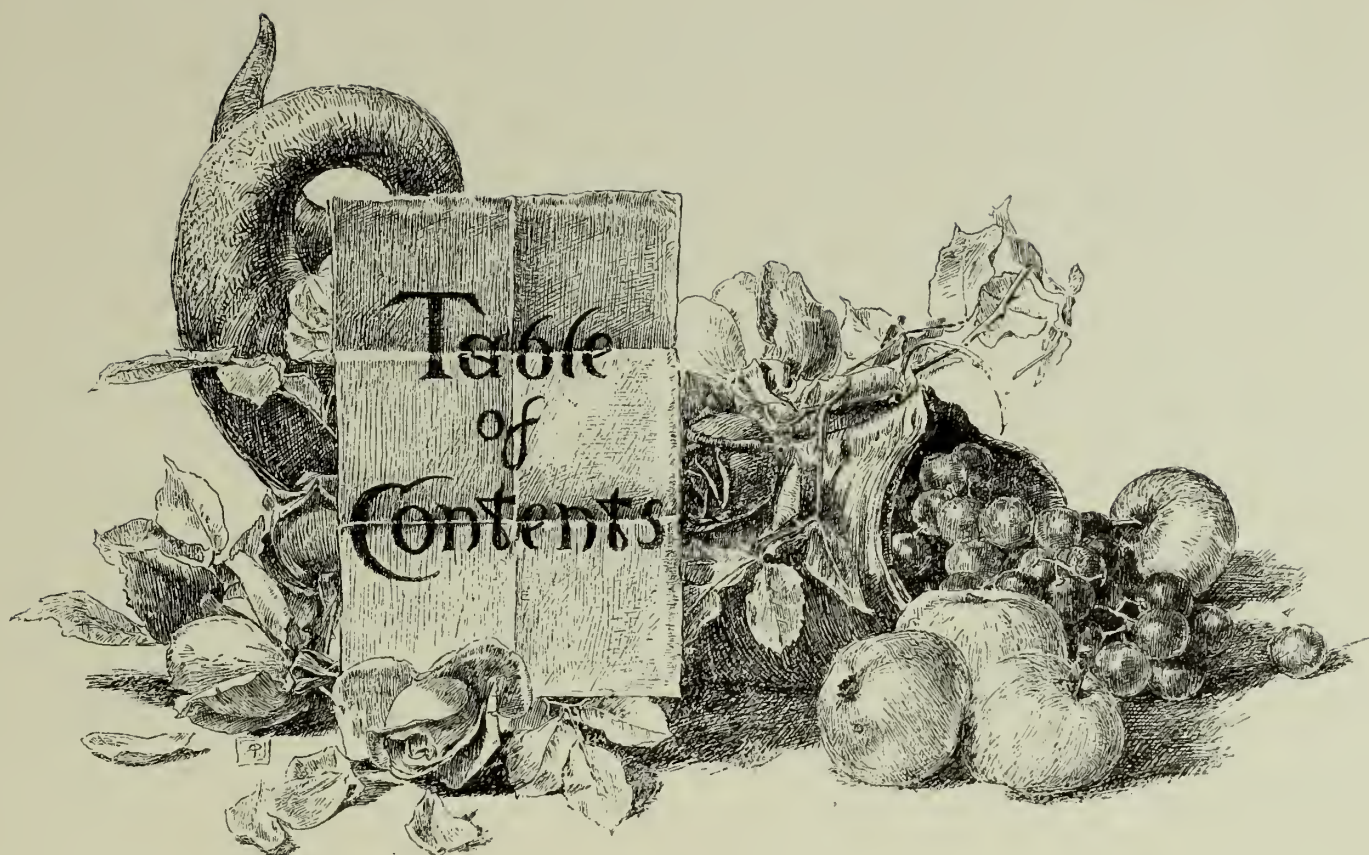
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TO DR. F. PARSONS and to DR. O. PARSONS for the loan of drawings by ALFRED PARSONS ; to the *Daily Graphic* for drawings by REGINALD CLEAVER ; to MESSRS. SEELEY & Co. for drawings by J. PENNELL ; and to H.M. Stationery Department for permission to reproduce the portions of ALBERT DÜRER'S drawings used for army examinations.

G. W. C. H.

CLIFTON, *January*, 1893.



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AN amusing story is told in the autobiography of James Nasmyth, the famous engineer and inventor of the steam hammer. He was travelling in Sweden, and was ignorant of the language. He says :—

“ The post-house where I was set down was an inn, though without a signboard. The landlady was a bright, cheery, jolly woman. She could not speak a word of English, nor I a word of Dannemora Swedish. I was very thirsty and hungry, and wanted something to eat. How was I to communicate my wishes to the landlady ? I resorted, as I often did, to the universal language of the pencil, I took out my sketch-book, and in a few minutes I made a drawing of a table, with a dish of smoking meat upon it, a bottle and a glass, a knife and fork, a loaf, a saltcellar, and a corkscrew. She looked at the drawing and gave a hearty laugh, she nodded pleasantly, showing that she clearly understood what I wanted. She asked me for the sketch and went into the back garden to show it to her husband, who inspected it with great delight. I went out and looked about

the place, which was very picturesque. After a short time the landlady came to the door and beckoned me in, and I found spread on the table everything that I desired: a broiled chicken (smoking hot from the gridiron), a bottle of capital home-brewed ale, and all the etceteras of an excellent repast. I made use of my pencil in many other ways. I always found that a sketch was as useful as a sentence. Besides, it generally created a sympathy between me and my entertainers." He proceeds later on to say, "To prepare the landlord for my setting out, I again resorted to my pencil. I made a drawing of the little gig and pony, with the sun rising, and the hour at which I wished to start. He understood it in a moment, and next morning the trap was at the door at the specified time."

Mr. Nasmyth, who was a practical man, considered that he was the possessor of a "Graphic language," that "the language of the pencil" is truly a universal one, especially in communicating ideas which have reference to material forms," he says, "a few strokes of the pencil can convey ideas which quires of writing would fail to impart. This is one of the most valuable gifts which a man who has to do with practical subjects can possess." Again he says, "My father was an enthusiast in praise of this Graphic language, and I have followed his example, in fact, it formed a principal part of my education. It gave me the power of recording observations with a few graphic strokes of the pencil; and far surpassed in expression any number of mere words. This graphic eloquence is one of the highest gifts in conveying clear and correct ideas as to the forms of subjects. This accomplishment of accurate drawing served me many a good turn in future years with reference to the engineering work which became the business of my life."

This is capital testimony by a great engineer of the value of drawing to engineers. As to the value of drawing to architects, we may quote Mr. Walter Millard in a paper read before the Architectural Association; he says, "Every day it seems to be more generally understood that the first thing necessary for good architecture is that the architects must be artists. Good designs are not to be produced by accident any more than good pictures or good sculpture, but by men endowed with artistic ability, who have taken all care to cultivate it to the utmost." Again, Mr. Millard advocates "the habit of sketching in the student or draughtsman of architecture, because it must tend to bring out whatever artistic ability he may happen to be endowed with, to accustom his eye to appreciate delicacies of form, subtleties of proportion, and beauty of composition."

Mr. Pennell, in speaking of architects says, "If they are unable to draw, that is, see artistically, they cannot build artistically," and Mr. Burgess in a paper on Architectural Drawing goes very far when he says, "No amount of architectural drawing would make a man an artist or an architect unless he knows the human figure."

In a paper in the *Parents' Review* on the age at which science should be taught, Mr. Cadell speaks of the indispensable nature of the powers of observation; he says, "Those who have taught the natural sciences to young men and women will tell you how frequent it is to see good pupils (sometimes the best in the generality of subjects) who do not know how to note the most visible things in a material object. To judge fairly of this it is sufficient to ask one of them to describe a plant *vivâ voce*. I have known some of them who did not even look at the specimen put into their hands. They seek for information in their head,

and when called upon to observe they cannot even note whether the leaves are opposite to each other or whether they are at different heights along the branch. At the age of five or six years they would perhaps have seen better, but during a number of years they have been occupied entirely with internal or abstract matters, grammar, words of different languages, &c. If they had learned any of the facts of natural history it was from a book. It has been overlooked that the faculty of observation is not only the fact of looking at everything but of engraving it in the memory, of comparing and reflecting, in order to draw true conclusions." Professor Meiklejohn, in discussing "How shall teachers be trained?" says, "The young teacher should learn to draw, he should be able to draw *at least* maps, diagrams, and plans. The report of the eye is the truest report that can be carried to the mind by any of the senses." Mr. Hamerton writes, "I have no doubt whatever that drawing is a necessary part of a complete education," and this is being more generally allowed on all hands, and the old-fashioned idea that the power of drawing is a natural gift, and, therefore, belongs only to the few, is fast fading. Every one can learn to draw, more or less, if they will be patient and sincerely try, and will probably find some day that power of use to them. This is not saying that every one can be an artist, for that implies the possession of imagination and creative powers, which *are* a gift, but all can become observers and recorders, and as such may do very useful work. The inventor, the discoverer, the traveller, the naturalist, the geologist, and the doctor, should all be able to record in this Graphic language that Nasmyth tells us is so valuable, and there are marvels or beauties on every hand to be recorded.

Every day numbers of people go out into the world, and see

objects of beauty and interest, and return with no record to show. Forms of decorations, pottery, carving, weapons, plant-form or details of architecture, that would be interesting to others, are lost because those that saw them could not draw them. What an additional interest is found in letters from abroad when they are full of sketches, showing what the writer has seen and admired, where and how he lives and what are his surroundings. A camera cannot be carried everywhere, but a pencil and piece of paper can. The man who cannot draw is ignorant of a common language that all should possess: we need not aim at being Royal Academicians, but that is no reason why drawing should be left to artists. And as a general rule the man who can draw is a better observer than one who cannot draw, simply because his eye is trained to look for whatever character and subtleties of form or colour may be in the object before him, for there is no possibility of anyone making an accurate drawing from nature unless he can observe accurately: and the more accurately we see, the more we shall find to see. "The eye sees what the eye brings means of seeing." But the fact is that the untrained eye does not know what to look for, or what it sees, and is in reality content with seeing very little, and that little, even, is often not very clearly seen. The eye may be bright enough, and sharp enough, and yet miss many of the things it might see and enjoy. So it comes to this that the more truly we observe, the more easily we shall learn to draw. Practically the first step in drawing is to learn to see accurately. Mr. Ruskin tells us that when once we see clearly enough, there is very little difficulty in drawing what we see, this certainly implies that the chief difficulty lies in our untrained and unpractised eye-sight. It is not enough to look at things in a general sort of way, we must notice keenly every variation

of form and colour, and proportion in the object looked at and its surroundings, we must compare one part with another, and each part with the general effect of the whole, and to enable us to draw the object we must reflect and remember what we have observed; thus memory, too, has its work in drawing, for when we have, as it were, learnt what we have seen, we must turn away our eyes from the object, to the paper and pencil. To quote Mr. Ruskin again, "The eye to be perfect in its power must be made accurate, as well as keen, and not only see shrewdly but *measure justly*." We may take it that to measure justly is to *compare accurately*, any measurement implies comparison with something else, and accurate comparison is the most necessary thing for all drawing, for it is only by most careful comparison that true proportions in a drawing can be obtained; and it will be readily acknowledged by all that no drawing can be good where the general proportions are inaccurate. Thus in making any drawing, our first care must be that we get the proportions of size accurately fixed, for unless this is done most carefully, when we come to finishing the drawing we shall most probably find that the details will not fall readily into their proper places. Still, further, there are other proportions or values to be considered, and carefully determined. If we look at any simple object in the room we may be in, we shall see that it has its surroundings; it is not alone, even if we try to isolate it on, and in front of, white paper, it is not actually alone, and not being alone, the values or proportions of its tones to those of its surroundings or background of paper have to be considered and dealt with: and it is only when these values of tone are most carefully attended to, that objects in a drawing appear to keep their proper place in that drawing. All parts of a drawing depend upon each other. Every

shade is relative in its depth to another shade, and *all* are relative to each other, taken separately they are *valueless*. They are component parts of a whole, and unless these *parts* have their right proportion or value the *whole* becomes distorted and the drawing does not please nor look real.

“ How are things in a drawing made to go back ” is a question often asked by beginners ; and the answer is, by carefully considering and comparing the values of their tones with the tones of everything around them, and their proportions of size with the proportions of all around them also. A line in a drawing is only long or short by reason of its proportion to other lines, a shade is only deep or faint from its proportion or value to other shades, and colour delicate or otherwise by its contrast to other tints. The height of an object in a drawing only appears right when it is in true proportion to its surroundings. We see a good picture, it may be, and find it very pleasing and satisfying, and do not always realise that this is because its proportions of line, and values of tone, and composition of light and shade, and arrangement of colour have not been obtained accidentally, but are the result of much thought and care in striving to see correctly on the part of its maker. So as nearly everything depends on our seeing things correctly, learning to see is of the first and utmost importance, and the education of the eye more necessary than the education of the hand, for the hand will soon learn to obey the eye. Now as seeing correctly helps us to draw, so also learning to draw helps us to see more correctly, and so we have an argument, why even those who do not care to draw should try to do so, for few people do not appreciate powers of observation. The teaching of elementary drawing has undergone a great change for the better. The old-fashioned lithographic landscapes and animal

studies gave way to the refined freehand copies issued by Mr. Poynter, R.A., from South Kensington, and although these are most admirable and useful, yet they do not train the student to observe and see and think for himself, as drawing from common objects does. A student who can draw fairly well (with the aid of surreptitious measuring) a jar from a flat copy is frequently found quite perplexed when given for the first time an actual jar to draw from.

Copies from the flat fail to make him think sufficiently for himself, a foreshortened portion of the copy may be very narrow, but it too often fails to impress his mind in any way ; whereas in drawing even the foreshortened upper surface of a common child's brick from the actual block, he has to think for himself, and decide for himself, and habits of comparison and observation are brought into play. Such habits of observation cannot be taught too early. Provided that we can draw a fairly straight line in any direction, and a combination of straight lines such as a square or triangle correctly from a flat copy, it will be well to place before us a block of wood, and learn how to see it, and to draw it *as we see it* in various positions and to note the change that takes place in each of these positions ; and so get at once accustomed to notice why lines and spaces appear long or short. When we can see this on the actual block for ourselves on seeing a good drawing of a foreshortened block, we shall understand it and appreciate the correctness of the drawing, and its proportions as we could not have done before. One of the earliest lessons to be learned is how very untrustworthy is the testimony of the untrained eyesight ; when this is realised, the importance of keen observation becomes apparent.

Mr. Collier, in his excellent *Primer of Art* speaks of the great

difficulty the mind has in separating the one aspect of an object before it from all the other aspects in which it has ever seen it, and notices that even the trained artist, because of his first conception of the top of a table as a square, finds difficulty in drawing it sufficiently flat without the aid of perspective.

This previous conception he considers "one of the great difficulties in the way of good drawing," and recommends that the student should "be placed face to face with it as soon as possible, without wasting too much time on the far less important operation of drawing from the flat."

He continues thus: "Of what sort of objects is it best to make outlines? Of simple ones at first. Anything will do: a book, a candlestick, a chair, anything; as long as it is drawn as accurately as if it was the most precious thing upon the earth." Here we find in this last sentence one of the greatest secrets of successful drawing, that *we must be in earnest* and try our very best, and not think, as too many do, because the subject is simple that great pains and care are not necessary. Anything that is worth doing is worth doing well, and carelessness in starting a drawing too often requires very great care to get it right afterwards. In a box of accurately made toy bricks a fund of simple models may be found, and as each brick can be placed in many positions, a variety of foreshortening arises that must evoke some thought to reproduce. Triangular forms, curves, and well-turned pillars among these bricks carry us on to other objects, such as cups and saucers, jugs, mugs, plates, eggs, bottles, glasses, boxes, books, candlesticks, chairs, &c., until by practice the student can draw almost any such objects with intelligence and with a fair amount of skill and correctness. All such common models are within the reach of every one. Care should be taken to have as perfect specimens of these models as

possible, and they should be placed when to be copied on a piece of white paper, and have also a white paper background ; on the white ground pencil construction lines may be drawn, such as are given in the examples, to aid the drawing for beginners.

Freehand outline copies from the flat may with advantage be alternated every now and then with outline drawings from objects, so that we, by seeing and working from good copies, may have a high standard before us to show what our own work should be like. From the drawing of such common objects as have been mentioned we may pass to outline drawing from casts of leaves or fruit, and thence to outlines from natural leaves and growing plants and shells, and casts from the antique. Facility in outline drawing having been gained shading may be attempted ; *but unless we have obtained a certain power of drawing* it will be *useless* to attempt shading, as the forms of the lights and shades require very true drawing or the modelling of surfaces will be very incorrect.

Do not be in too great a hurry to get on to difficult subjects. The time is not wasted that is spent in striving to do everything as perfectly as possible, even the smallest thing. We should go slowly at first that we may go fast in the end ; and should remember in all art work, as in every sort of work, it is safest and surest to build upon a good foundation.

We shall gather by seeing various examples of work and style that there is no simple road, no one process or rule by which success may be obtained in drawing. And it should be a great encouragement to see that success has been attained by so many various styles. No one need feel themselves compelled to adopt any one system of work. No two people ever express themselves in an exactly similar way, all are free to choose the

way they like best for themselves, and the way that suits them best, and in which they feel most at home ; but *before doing this*, before getting into a style of our own, we should have seen good work in many styles, and appreciated the variety and excellence of each ; and on no account must the beginner mistake slovenly, careless work for boldness or artistic freedom. Bold and artistically free work is, and has been, obtained only after patient accumulation of knowledge and observation have trained the eye and hand to act simultaneously and in concord with each other. The true teacher would never compel his pupil to adopt any particular style or mannerism, but would endeavour to encourage in each pupil his own originality to the utmost, and to teach and cause him to think for himself.

There is yet another important reason why every one should learn to draw and so learn to see, and this is that our taste for what is really good may be improved. Taste is a matter of cultivation in most people, and too many, because their taste has made no progress since childhood, do not know a good drawing from an indifferent one, and are readily attracted by gaily painted pictures that are full of faults. The true judge is the person who can do fairly well the thing he judges, and who knows the difficulties that have conquered the artist or have been overcome by him. It is not sufficient that a drawing or painting should please us. To the street Arab the gaudy flaming advertisement may seem a splendid work of art, though it may be hurried past by others as a hideous sight, and in the same manner we, unless we know something of drawing, or get our taste second hand, are sure to admire things in which, when we have acquired some knowledge of art, we shall find many defects. Improved taste demands good

work to satisfy it, and will not be content with gay daubs of untrue colour and form, but will in preference seek real works of art when every line is full of feeling and grace and where, if colour is present, it is refined and true to nature. Improvement of taste in the general public who buy, means improved and higher work from the artisan and the artist, greater beauty in our homes and refinement around us and in ourselves. Learning to draw will enable us to appreciate what is beautiful both in nature and art, in a way that those who cannot draw cannot understand. The beauty of a flowing line, or the charm of a well-proportioned shape, will be far more appreciated when we have learned, by learning to draw, to see with understanding eyes, eyes that have realised how much there is to see.

It is not necessary to give any especial advice about pencils or paper; any pencil will do, for outline work, that is not too soft, and any fairly smooth paper. Rough paper and soft pencils are not recommended for beginners, as faults in delicacy of line are too often attributed to the paper and pencil.

Common cartridge paper is good enough for all early work. There is a primary difficulty that beginners will of course meet, and that is in drawing a straight line. The best practice for this necessary accomplishment is to take an ordinary sheet of ruled foolscap paper, and to go over the ruled lines with pencil until the pencil line can be made to cover the ruled line without deviation at all on either side; then draw lines for yourself between the spaces until you can do so fairly well, keeping an exact distance apart from the ruled lines. It is a very hard thing to draw a really straight line, and requires accuracy of eye and great steadiness of hand.

To test the correctness of a line, place the drawing in some

change of position; if the line is horizontal, turn the paper and look at it as a vertical line, and *vice versa*, and you will generally be able to make some corrections without the aid of a critic.

. It is an extremely good and useful plan to look at the drawing in a hand-mirror. The drawing appears reversed and attention is very quickly drawn to faults. The eye sees the drawing from a new point of view, and faults are discerned which it could not see in the old view to which it had become accustomed.

MEASURING

When this first step is fairly conquered, the next most necessary thing in learning to draw is to learn to measure correctly, and so we will make this our starting point here.



FIG. 1.

Fig. 1 represents the front view of a small wooden block. It affords almost the simplest test of measurement possible. To find the comparative width of A B with the length of A C is obviously all that is required for the drawing.

Place the block at some convenient distance, and at such a level that only *its front is visible* and draw it first without measurement, and then test your drawing as follows.

Hold your pencil at arm's length horizontally before you, between you and the model, but not touching the block, so that the tip of the pencil appears to be at the point A and your thumb-nail at B. When you have found this measurement *exactly* on the pencil, turn your hand (keeping at the same distance from the model, and without moving your thumb-nail) and see how many times the space you have fixed on the pencil is contained in the length A C.

The line A B can be drawn of any length to start with, but A C must be of sufficient length to contain A B, exactly as many times as you have found it to do by measurement. It is well to use only one eye for measurement and to keep carefully in one position.

In almost all the examples given of outline drawings a horizontal base-line will be found. This line is of great assistance in finding the angles of receding lines, and should be always the first line drawn on your paper. Take in all drawings *one line*, and one only if possible, as a standard for measurement.

The object to be drawn should be always placed sufficiently far from the eye to enable all its proportions to be seen at once: and not too far either to the left or right of the direct line of vision. It should be placed *at least three times its greatest dimensions* away from the eye.

Do not draw things larger than they are, unless for some especial purpose. Should the object be small draw it as nearly as possible its real size; if the object is large draw it so that it will fairly fill your paper. Don't make miniature drawings.

"A young man ought to begin to learn perspective by measuring everything."—
LEONARDO DA VINCI.

Albert Dürer asserted that "no one could be a good workman without measuring," and that "it was the true foundation of all painting."

FORESHORTENING

Now as soon as we place the wooden block on one side of our direct line of sight, and below the level of the eyes, two other surfaces of the block come into view, and here we find an appearance which is called *foreshortened*.

A dictionary explanation of the term to *foreshorten* in drawing, gives it, "to represent objects as they appear when not extended in front of the spectator."

Foreshortening then takes place in those parts of an object that appear *to recede from* the spectator.

The familiar illustration of a coin will show this plainly.

Hold the coin so that the complete circle is visible ; height and width are now equal, but tilt the upper edge slowly away from you, and it will be readily seen that the height becomes distinctly less than the width, until, as you continue to slope the coin, the height entirely disappears and the width, which has never altered, becomes a mere line.

Now hold the coin as a complete circle again, and push one edge of its *width* gradually backwards ; you will find that the width becomes much less than the height, until the width disappears and the height only remains as a line, and is of the same length it has always appeared. Again showing clearly that it is the parts of an object that pass away or recede from the spectator that alone foreshorten.

Therefore in any receding part of an object, expect to see foreshortening.

Be constantly observant lest foreshortened surfaces and lines are too much enlarged or lengthened by you in your drawings.

The eye is only too easily deceived as to the real length or size of foreshortened parts, and the exaggeration of foreshortened parts is one of the commonest mistakes in drawing.

Fig. 2 represents a block having one side and its top foreshortened. It will be well to place your model on a piece of white paper, and to draw upon that paper a horizontal line on which to place the base of the block. After some practice this line can be dispensed with, for the eye with experience can imagine its position, but for some time at any rate it will be found of great assistance. Place your block before you in a similar position (for these illustrations are not meant as copies,

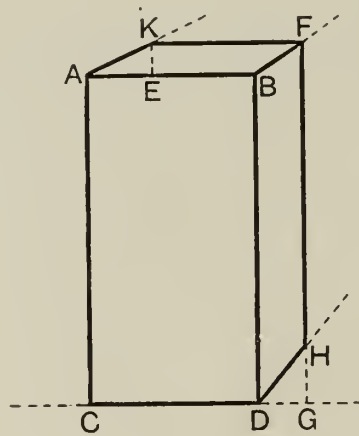


FIG. 2.

but as examples to show how similar models are to be observed and drawn), draw a base-line on your own paper, and proceed to find the proportion of AB to AC as in Fig. 1 that is the proportion of the width of the block to its height, and complete the front of the block. *Now without taking any measurement try and draw the foreshortened side as it appears to you*, and then test your drawing as follows. Imagine the line FH lengthened downwards until it reaches the base-line in a point G. Measure the distance DG on your pencil (your thumb-nail in measuring to be exactly under H) and find how many times DG will go in the line AB of the block (AB

is to be the standard for measurement in this drawing), and then in your drawing make DG in the same proportion to your line AB , that is if DG will go, say, almost four times into AB on the block, find a length that will go almost four times into your line AB in your drawing. And having found such a length mark it off on the base-line from D , and that will give you the right proportionate length for your line DG . From G now draw a vertical line parallel to DB ; this line will be one outline of the foreshortened side of the block. The next step is to get the foreshortened top. Measure the space between AB and KF on the block, and find its proportion to AB as you did with DG , that is if the measurement of the space will go three times and one-third into your standard line AB of the block, find a length that will go three times and one-third into your line AB , and that length will show you at what distance to draw KF from AB . This line KF will meet the line from G in F . Join BF . To get the base line DH of the foreshortened side, find the proportion of GH to AB (as you have done with DG and the space between AB and KF) and when you have the right height of GH join DH . One more line remains to be found, namely AK . From K on the block drop an imaginary line down to AB . Notice where it would cut AB in E . Find the proportion of AE to AB , and then mark off a length AE in similar proportion to your line AB . From E in your drawing draw a short vertical line to meet KF in K . Join AK , and your drawing should then be correct in all its proportions.

It will be seen in Fig. 2 that the lines AK , BF and DH if continued far enough would eventually meet. To understand why they have this appearance should be the next step, and for this it will be necessary to know something of the elements of perspective.

ELEMENTS OF PERSPECTIVE

Whether standing down on the sea-shore or up on a high cliff, we notice that the sea appears to end in a line exactly at the level of our eyes. This line is called the *Horizon Line*. If a large square-sided raft was on the water near and in front of us, with its stern parallel to the shore, we should see a considerable amount of its upper surface, and the full width of its stern. But if the raft was sent, by some mechanical means,

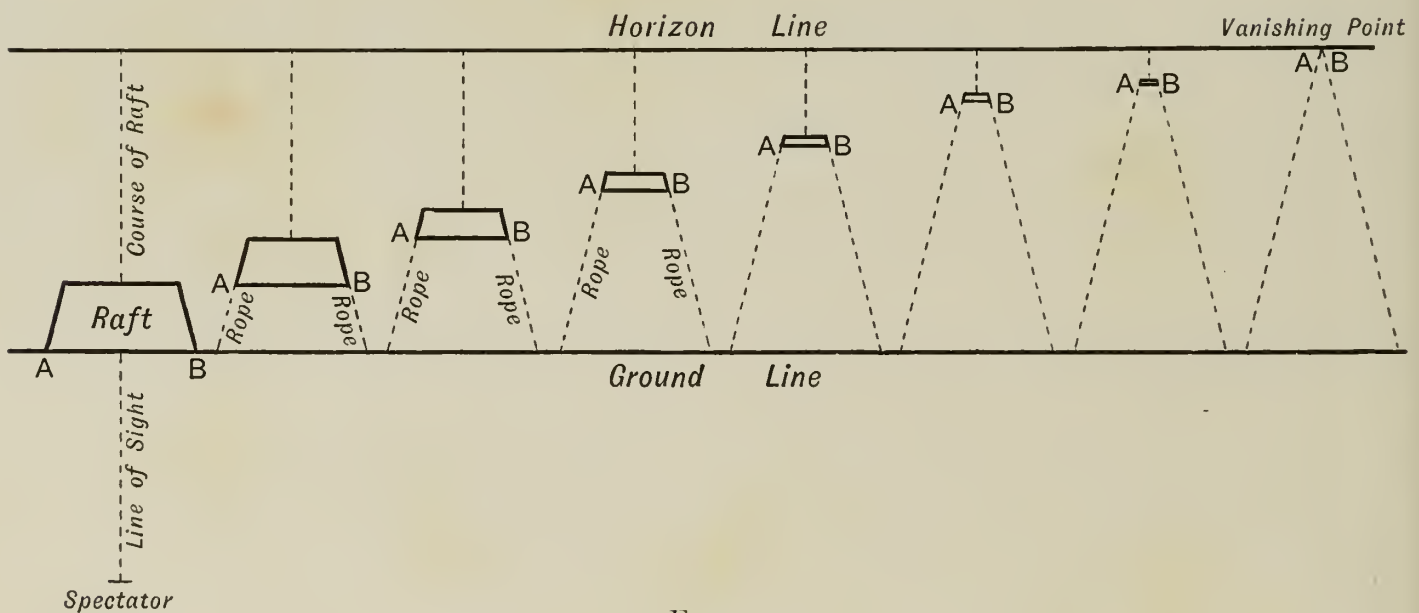


FIG. 3.

steadily away from us in a direct straight line, it would appear to be rising up the sea towards the horizon, and would look smaller and smaller the further it went, until at last it faded away in a dot. Now if that raft paid out two uncurvable ropes, that would float, from each corner of its stern, and our ends of the ropes were fastened down on the shore, exactly the width of the stern of the raft apart, as the raft proceeded we should see that the two ropes got nearer and nearer together in proportion as the raft became smaller, until at last they joined in a dot on the horizon.

The theory of perspective is that the further an object is away the smaller it appears ; so as the stern of the raft goes further away its width appears to lessen, and consequently brings its ends of the ropes nearer and nearer together, until as the stern ends in a dot so too the ropes meet in a dot. The two ropes were in reality parallel to each other all the way, and yet appeared to meet ; and this is the case with all parallel lines that recede from our sight, the further they are continued *the less the space between them* appears ; and in consequence we find that we must so draw all *parallel lines that recede from us* as to give the impression that they would meet if continued far enough ; and this appearance begins *at once*, for *directly* the stern of the raft leaves the shore it has already begun to appear smaller to our eyes than it actually is, and so *at once* begins to draw its two ends of the ropes together.

Now precisely the same thing occurs with the block in Fig. 2. The line $K F$ being one side of the square A, K, F, B , is in reality exactly the same length as the line $A B$, *but* being on the further side of the square, it is further away from us, and therefore appears slightly smaller ; this being so, we can easily realize that *it has begun to draw together its two ends* of the lines $A K$ and $B F$, and that if the block were pushed away from us, as we have imagined the raft to be, the line $K F$ would appear smaller and smaller till it ended in a dot on the horizon or vanished altogether, and all the time it would be drawing the lines $A K$ and $B F$ nearer and nearer together until they vanished also. See Fig. 4. We may thus see a reason why receding parallel lines appear to ultimately join : it is because *the space* between them appears smaller the further *it* is away from us, and so draws the parallel lines together.

Notice in Fig. 4 the same drawing together takes place between the two parallel lines B F and D H, because F H appears shorter than B D, as it is further away from us.

Notice again that A K, B F, D H, being all parallel to each other *must all recede in the same direction*, and should *all* eventually appear to meet in one spot. Now in perspective drawings any spot in which any set of parallel lines appear to meet is called a vanishing point, and is generally marked V.P. See Fig. 4.

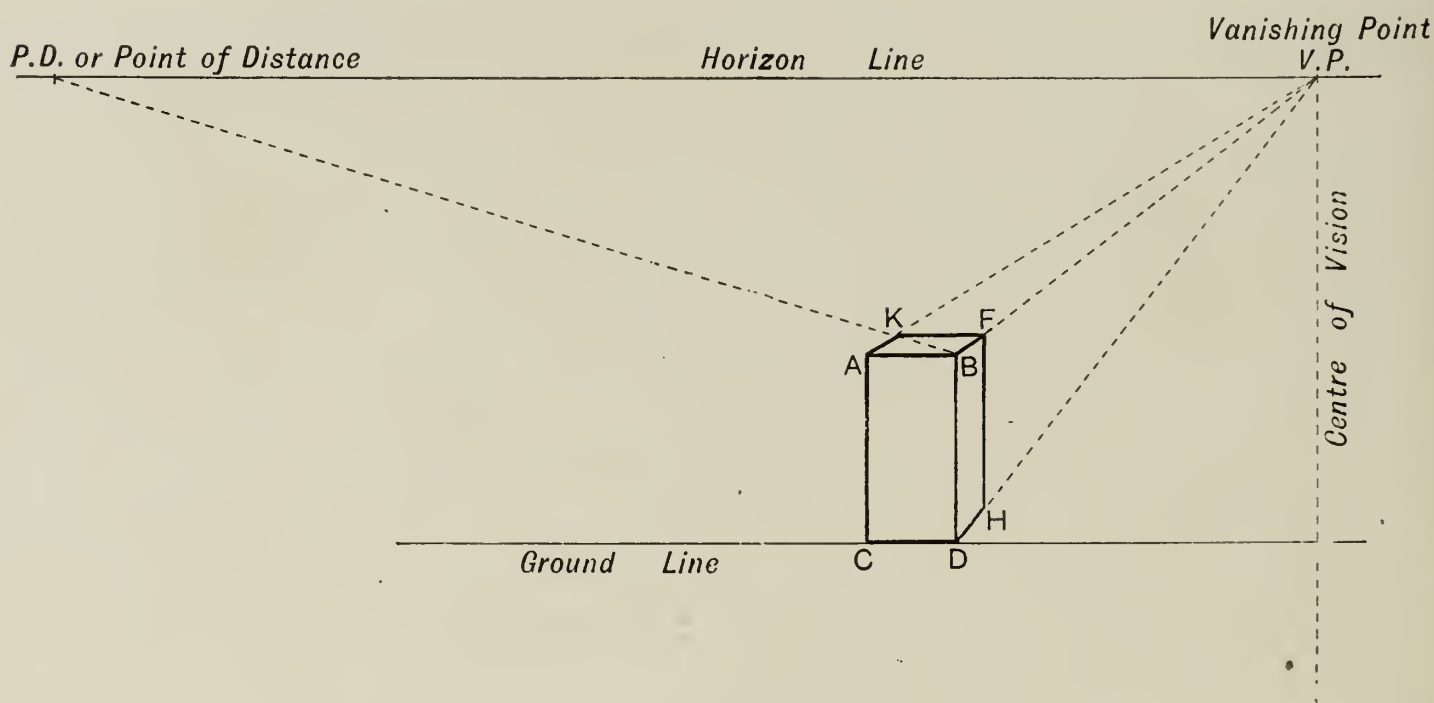


FIG. 4.

In Fig. 5 the same block is shown drawn badly—that is, *out of perspective* as it is termed, with the parallel lines A K, B F, and D H, *not* meeting together in one vanishing point; it is easy to see how wrong it appears in comparison with the block in Fig. 4.

All good drawings are made so as to look correct when hung upon a wall, and then they should, unless flat outlines, represent something that will recede from us in a natural way, and this receding effect is, we have seen, obtained by the diminishing in their proper degree of all objects or lines that are not immediately in the foreground. If paper was as transparent as glass, the

artist would have nothing to do but look through it at his subject, and mark on it what he saw, and he would then obtain a true perspective drawing, and one in which every object and line would have its correct proportion. So, in looking at the drawing of the raft, we must try and imagine that we are looking through transparent paper or glass at the raft, as it passes away from us to the horizon, and marking on it what we see.

In making every perspective drawing we must imagine a horizon line in front of us at the level of our eyes, and try to

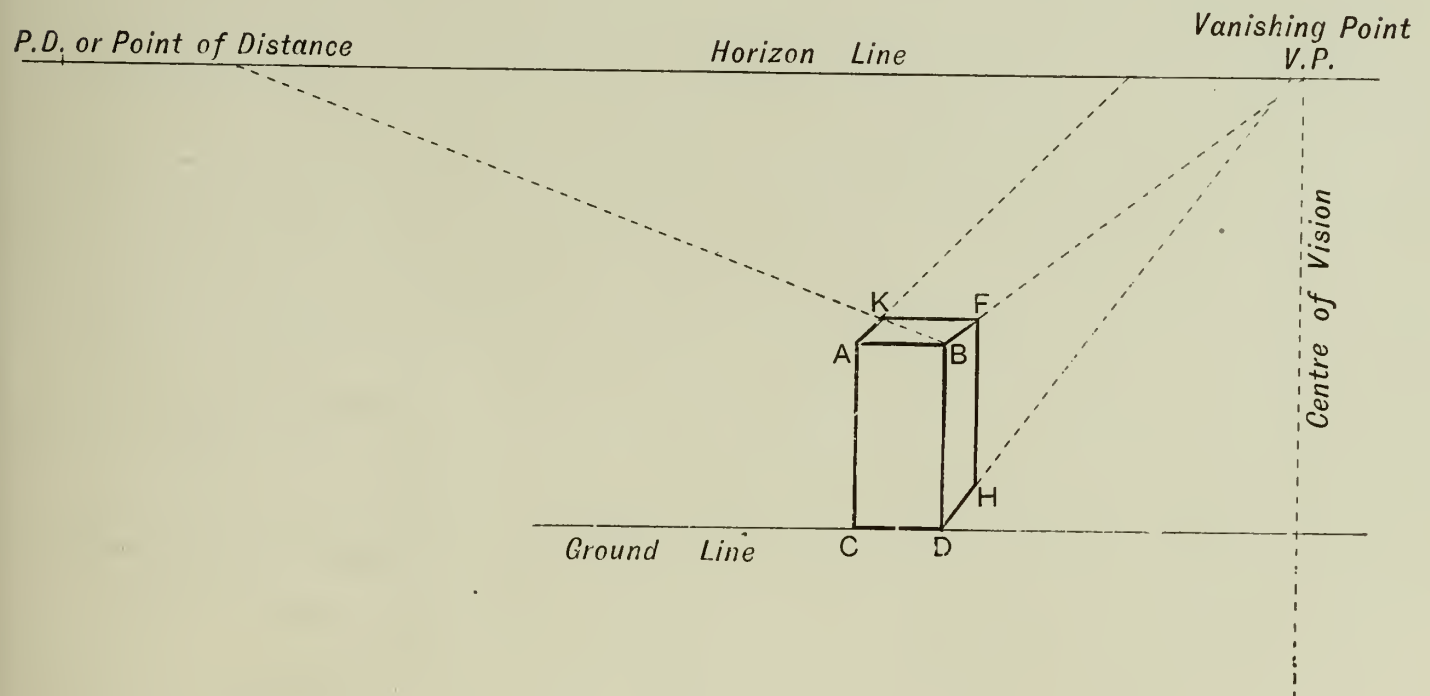


FIG. 5.

realize that this line is, as we have seen on the sea-shore, *as far away from us as we can see*. A central line of vision is supposed to pass directly from our eyes to the horizon, and this line is the actual centre of our field of vision, our field of vision being supposed to be only just what we can see without turning our heads at all.

The field of vision is supposed to be a circle that would be limited by rays at 30° passing above, below, and on each side from the eye to the horizon.

If we turn now to the first drawing of the raft (Fig. 3) we find another very important point to notice, namely, that the *length* of the raft also appears less and less the further it goes away from us and *the nearer it gets to the level of our eyes*.

If we look directly down upon a table, we see a great deal of its upper surface, but if we stoop lower and lower and so lower the level of our eyes, we see less and less of the top, until, by stooping low enough, we see nothing of it at all. Now if we were to draw the table as we first saw it, the top would not appear to be lying flat, it would appear to be rising up. So it will be seen that to give the table the appearance of lying flat and going properly away from us, we must draw it as though the level of our eyes was very low down or the table very near the horizon. This is an important point to be remembered, that if we wish to give an object the appearance of lying flat we must make its parallel lines meet together, or vanish as it is called on a low horizon line.

It is a common fault to draw the upper surfaces of objects as though they were rising up instead of lying flat.

In Fig. 2 we found the correct length of the line AK by careful measurement. In perspective drawings the length of such a line is found by means of a point on the horizon.

From the vanishing point mark off on the horizon, on either side of the vanishing point, *a length equal to the distance we are supposed to be from our horizon line*. In Fig. 4 it is marked PD or point of distance, and is a measuring point for all lines going to the vanishing point. A line drawn from B to PD will cut off AK at its correct perspective length. In the same way to get the perspective length of DH, as DH is really the same length as CD (the top and bottom of the block

being squares), we should mark off from D a length equal to CD on the ground line, and from the end of that length if we draw a line to P we should find it passed through the point H , thus cutting off DH perspectively equal to CD . If we wished to make DH longer or shorter than CD , we should have to mark off from D the exact length we require, and then as before draw a line to P and so make DH perspectively correct. In perspective problems the object is not supposed to be seen, but has to be drawn from description and given measurements, so it is necessary to have some such measuring point, but with the object before us to be drawn we need not trouble ourselves about this measuring point, but should only rely upon careful and actual measurements with the pencil to get the length of such receding lines. *This measuring point has been now mentioned, as in the illustration giving perspective of circles in a square it will be found used.*

Notice in Fig. 4 and in Fig. 2 that the parallel lines KF , AB , and CD , *would never meet* even if *produced* as far as possible, *because they do not recede from us*. The same may be noticed of the lines AC , BD , and FH ; they would never meet if lengthened indefinitely.

It should be also noticed that the parallel lines AK , BF , DH , all appear to meet on the horizon line at the extremity of our centre line of vision. They meet at that spot because *they are also parallel to our centre line of vision*. The base CD of the block is standing squarely on the ground line which is at right angles to our centre of vision, therefore the parallel lines AK , BF , DH , which are really at right angles to the base CD of the block, are parallel to our centre line of vision.

So this should be remembered, that *parallel lines that recede*

directly from us and are parallel to our centre line of vision vanish in the centre of vision on the horizon. (Fig. 6.)

Before going further it must be stated that though most receding parallel lines vanish on the horizon, there are some that do not, but as a general rule we may take it that *all receding lines that are parallel to the flat surface of the earth or floor of the room as it recedes from us* have their vanishing point somewhere on the horizon line. Whereabouts on the horizon that

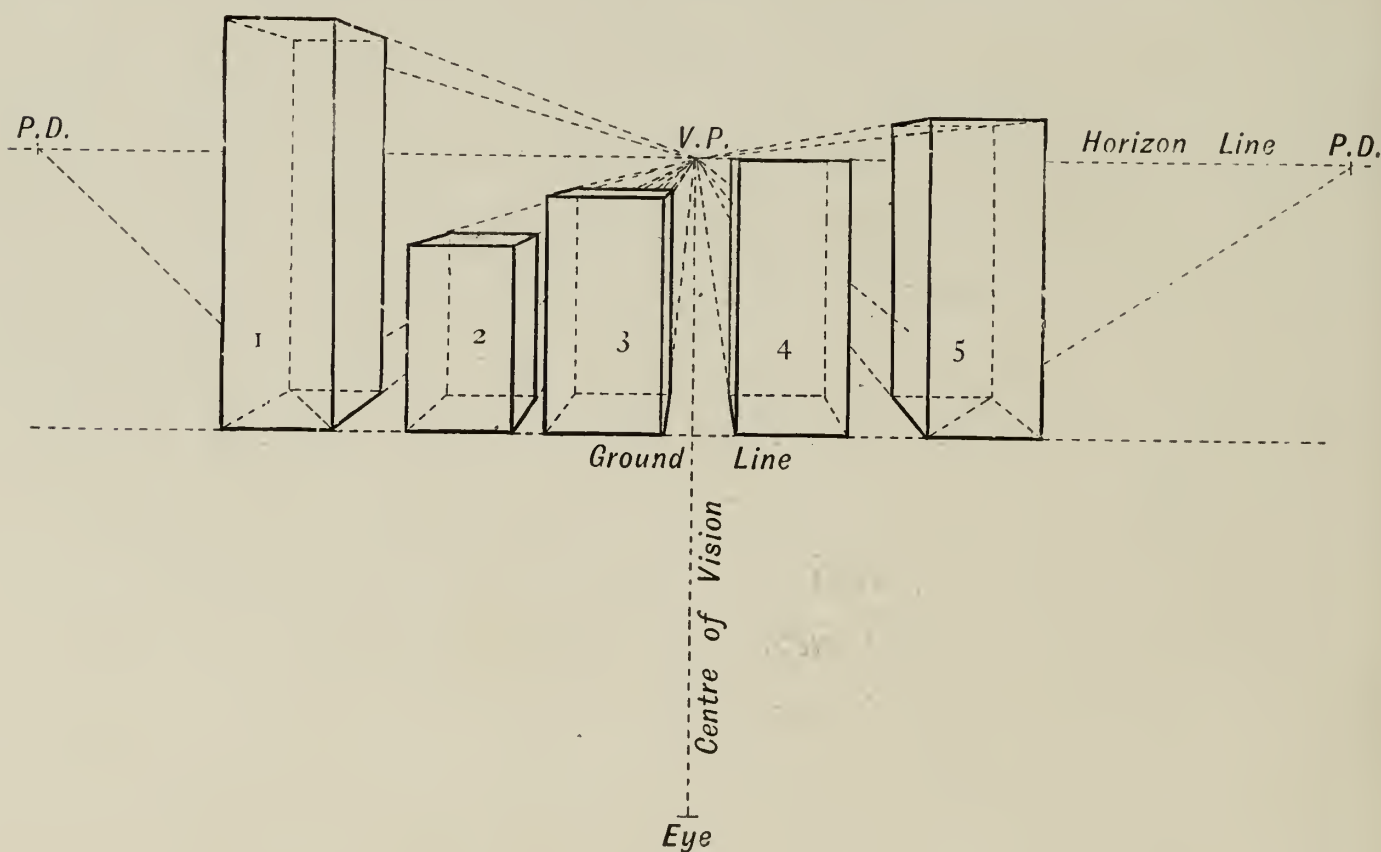


FIG. 6.

vanishing point is, depends entirely upon the angle these lines are at with the horizontal ground line.

There are receding parallel lines that do not and could not meet on the horizon. These are such lines as would be found in the open and tilted lid of a box, or in the roof of a house.

These lines if sloping backwards would meet in some point above our horizon line, and if sloping towards us in some point below our horizon line. See Figs. 7 and 8. This is so because

these lines, although they are receding parallel lines, are NOT parallel to the flat surface of the earth or floor below them, but are at some angle to it.

For an example of the practical application of the simple rules of perspective to the drawing of buildings, turn to the drawing

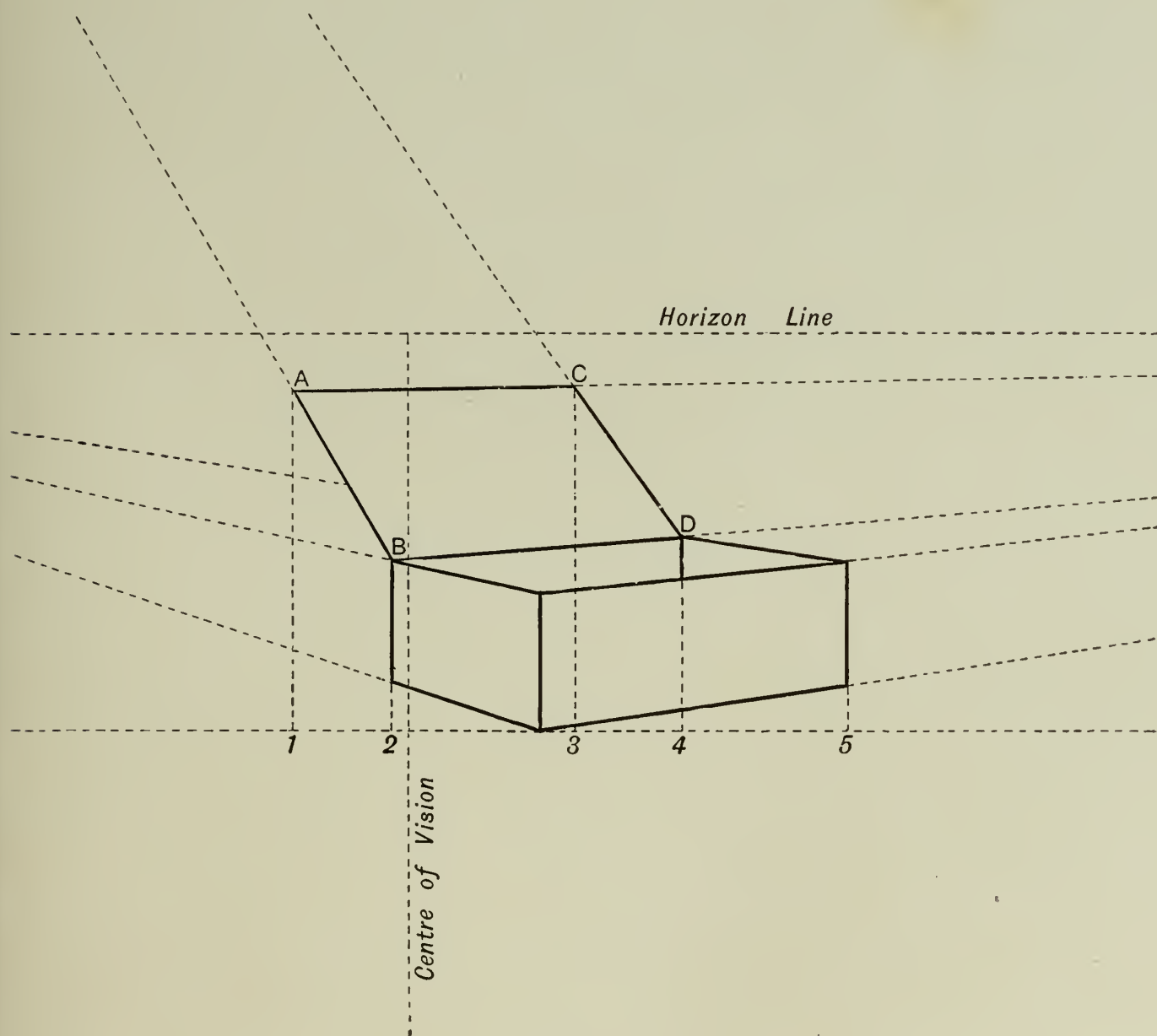


FIG. 7.

of "The High Street, Guildford," by Mr. J. R. Brown. Notice that all *receding lines parallel to the ground*, which are *above the horizon* or level of the eyes of the artist as he made the drawing *recede in a downward direction* to the horizon, and that all similar lines *below the level of the artist's eyes* recede *upwards*.

We shall constantly in drawing find occasion to draw foreshortened circles, such as the tops and bottoms of jars, cups, vases, portions of pillars, arches, &c. It will be well then to understand how to put a circle or semicircle into correct perspective.

To obtain the correct drawing of a circle in perspective it is necessary to enclose it in a square. We are thus enabled to obtain several points of great assistance. Draw first on your paper a

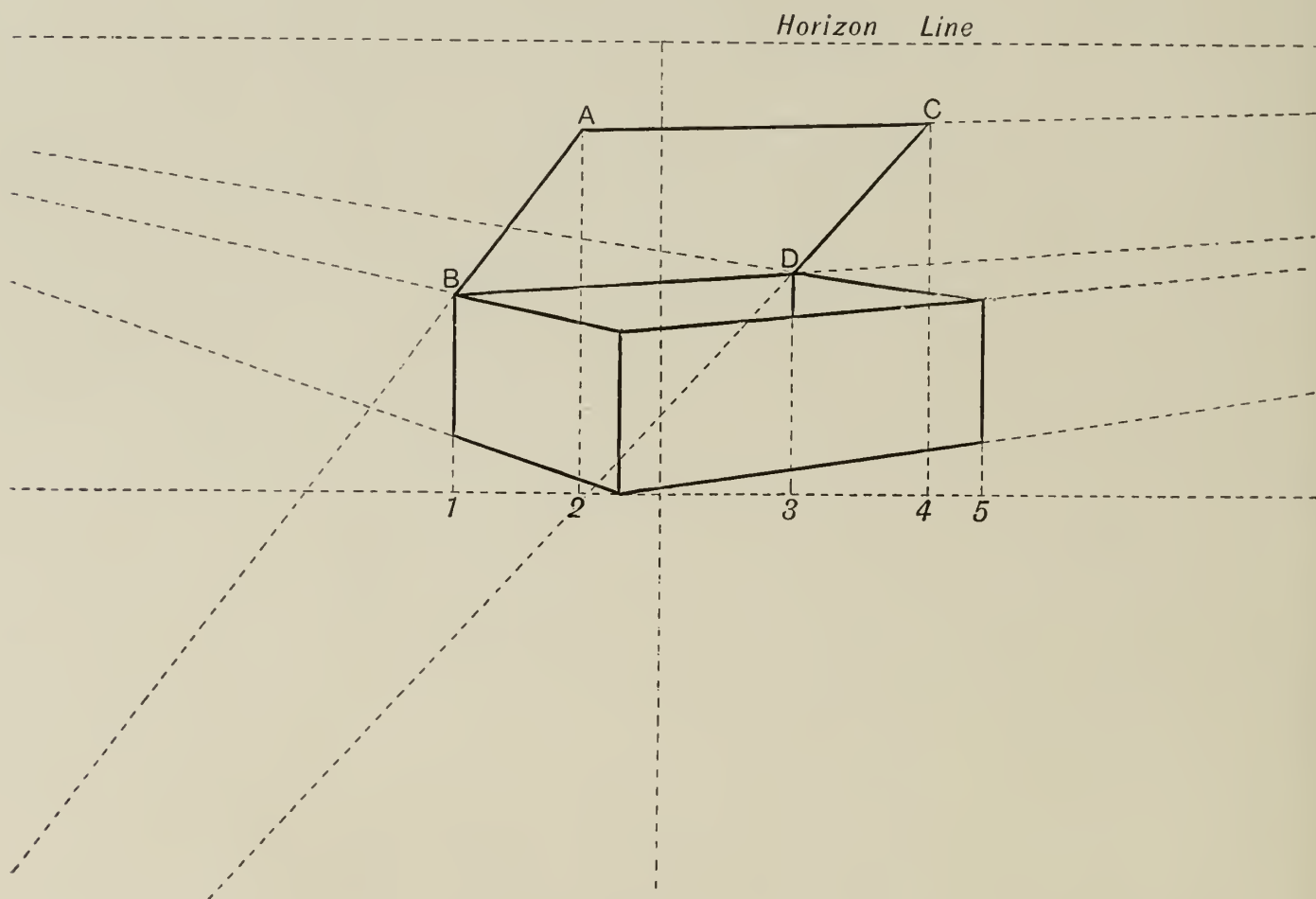


FIG. 8.

ground line and horizon line, and on the horizon line fix a centre of vision and points of distance. The horizon line is generally in perspective drawings placed at the height of five feet from the ground line, and the distance of the spectator's eye from the horizon at twelve feet; these feet can be represented by any equal parts as a quarter of an inch to the foot; the points of distance will be as far from the centre of vision as the eye is supposed to be.

Now draw somewhere below your ground line a square A, C, D, B , each side of which must equal the length you desire the diameter of the proposed circle to be. Draw the diagonals $A D$ and $B C$ of the square—where they cross is the centre of the square,—from this centre point describe a circle touching the sides of the square at 1, 3, 5, 7, and cutting the diagonal lines $A D$ and $B C$ at 2, 4, 6, 8. Draw next the diameters 1, 5 and 7, 3, then through the points 6 and 8 draw a vertical line meeting the sides $A B$ and $C D$

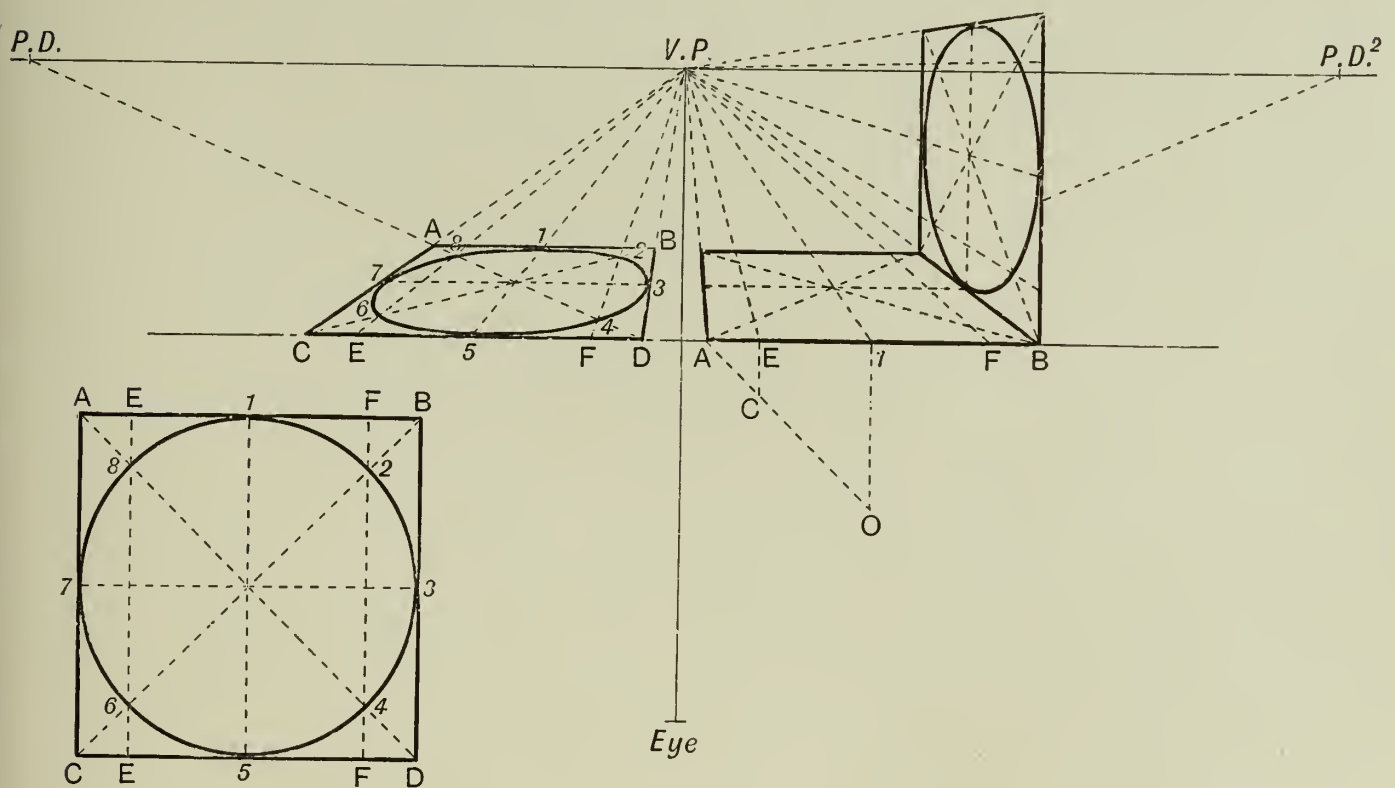


FIG. 9.

of the square in $E E$, and through the points 2 and 4 draw a similar vertical line meeting the sides $A B$ and $C D$ in $F F$. We have now obtained eight points 1, 2, 3, 4, 5, 6, 7, 8, on the circumference of the circle, four of which are on the sides of the square, and the other four on the two vertical lines, $E E$ and $F F$ whose extremities are on two sides of the square.

Now mark off on the ground line, as far to the right or left of the centre of vision as you wish it to be, or across the centre line if desired, a length $C D$ equal to the side $C D$ in the

plan square, *this line c D is equal to the desired diameter of the circle.* Bisect c D at the point 5; next from c and D mark off spaces c E and D F equal to each other and of the same length as the spaces c E and D F on the line c D of the plan square. From each of these points now obtained, viz. c, E, 5, F, D, draw light construction lines to v P the vanishing point on the horizon, and from D draw a similar line to the P D, point of distance, on your left (or from c to the point of distance on your right) where this line from D cuts the line from c to the vanishing point, mark A, c A will now in this perspective drawing be the correct length of the line c A in the plan square. From the point A draw a line parallel to the ground line, meeting the line from D to the v P in B. The figure now obtained is the perspective representation of the square in the plan. To place the circle in this square we must draw the diagonals A D and B C, their point of crossing will, as before, give us the centre of the circle; through this centre draw the diameter 7 3 parallel to the ground line. We have now the required eight points as before, four on the square itself and four where the diagonals cut the lines going from E and F to the vanishing point. All that remains to do is to draw the necessary curved lines through the eight points as correctly as possible, the result should be the perspective form of the circle lying down. It will be readily seen that the lines E E and F F give us at their contact with the diagonals of the square four valuable points, 2, 4, 6, 8. To obtain on the line c D the points E and F it is not necessary to draw the whole of the plan square. Notice that the plan square is divided into eight equal triangular parts. If we obtain one of these parts with the five points in it, A E I, the centre, and 8, we shall have all that is necessary as a plan. To obtain this eighth part proceed as follows:—Draw on the ground

line AB the length of the diameter of the proposed circle; bisect AB in I , from I draw downwards a vertical line IO , equal to the half of AB , join AO , on AO from O make a length OC equal also to the half of AB , and from C draw a vertical line CE parallel to IO , and meeting AB in E . Having obtained the distance E should be from A , make BF equal to AE , and draw lines from A, E, I, F, B , to the vanishing point, and proceed to get the square in perspective as before.

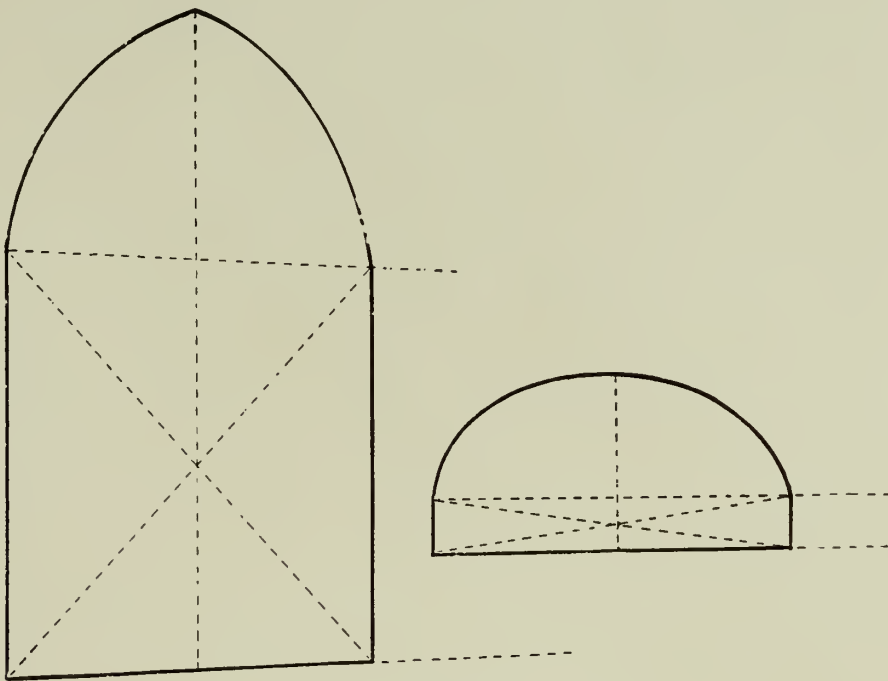


FIG. 10.

The circle in the upright square is obtained in the same way.

The perspective of any curves may be found in a similar manner; enclose the curves in some rectangular figure, and obtain points from the curves to the sides of the rectangular figure; place the rectangular figure in perspective, and by means of the points in its sides the points in the curves may be found.

The perspective centre of any arch of a window, doorway, or bridge can be obtained by drawing in perspective a rect-

angular figure below the points from which the arch springs; join the diagonals of this figure; from where they cross draw a vertical line. On this line will be the centre of the arch. (Fig. 10.)

The series of circles in perspective above and below the horizon line may represent the tops and bottoms of jars or vases, or if looked at sideways may assist in explaining the foreshortenings of cart wheels, &c. Notice that the circle on the horizon line, or if the drawing is looked at sideways on the centre of vision, becomes a straight line. (Fig. 11.)

SUMMARY.

For the ordinary purposes of drawing from nature or objects it will be useful to bear in mind the following summary.

All objects appear to diminish in size in proportion to the distance they are away from us.

All parallel lines that recede from the spectator have the appearance of ultimately meeting or vanishing at a point. This vanishing point for *any receding lines that are parallel to the flat surface of the earth or floor below them*, whether they are above or below the horizon, is at the level of the spectator's eyes, and its exact position on the horizon is dependent on the angle at which the lines are placed. All such lines *below* the level of the spectator's eyes tend upwards, whilst those *above* the level of the eyes tend downwards (see Fig. 6.), but any receding line whose whole length is on a level with the eyes, that is, on the horizon, is to be drawn as horizontal; such a line may be seen in the side of the block No. 4, in Fig. 6.

Receding lines that are not parallel to the earth or floor do

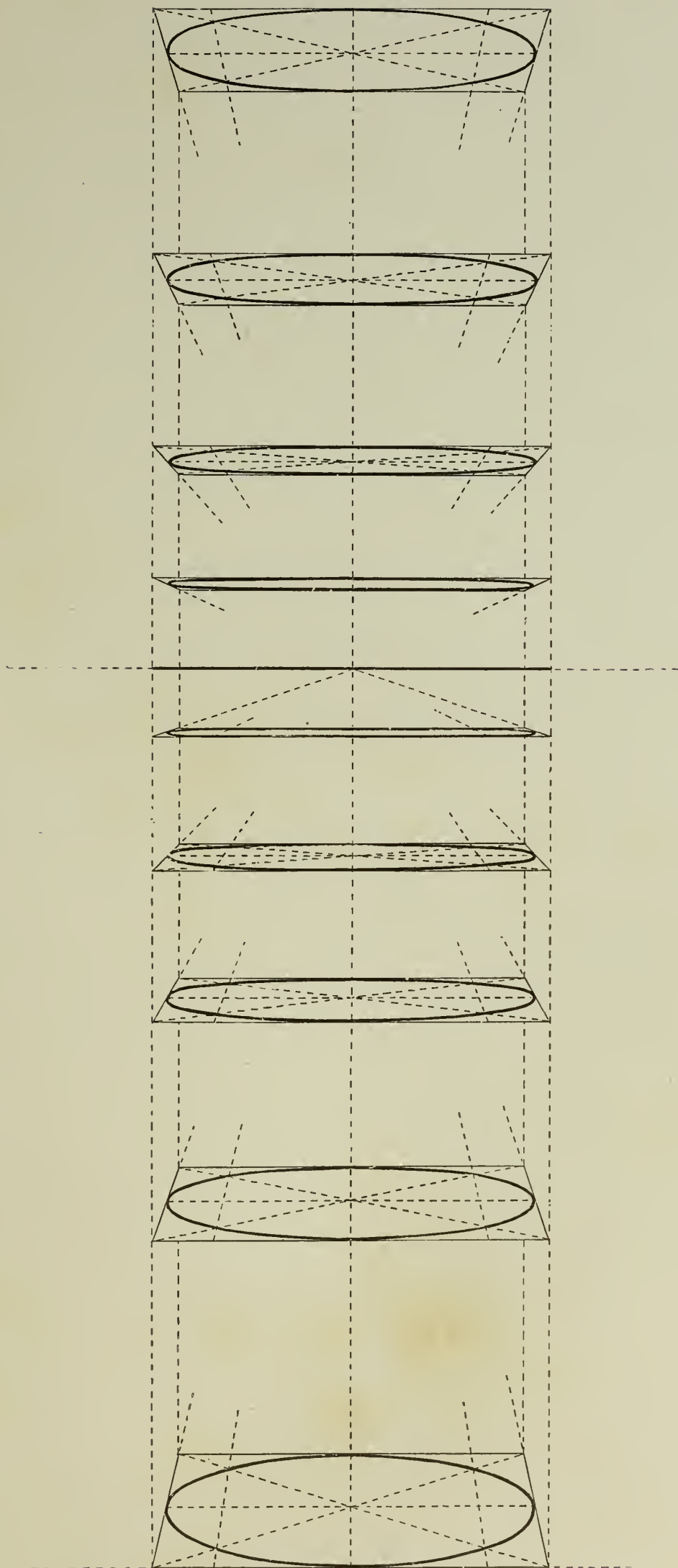


FIG. II.

not meet or vanish on the horizon, but either above or below it, as in Figs. 7 and 8.

Parallel lines that do not recede at all never have the appearance of meeting anywhere, but always remain at the same distance apart, even if produced indefinitely.

Receding lines that are parallel to the centre line of vision vanish in the centre of vision on the horizon.

For the actual study of perspective some special book on the subject should be obtained. Practical perspective that enables a student to draw forms more truly by its aid, and helps him by its knowledge to avoid mistakes that his untrained eye would not have noticed, is very valuable; but the working out of complicated perspective diagrams that have no practical application is of little use for ordinary drawing purposes. The student is warned to rely upon nothing but close observation; rules may help, but they should never be allowed to take the place of observation.

OUTLINES

An outline is the representation by one continuous line or several lines of the *extreme* limits of any object or form. The line that in a map defines the uttermost boundary of any country is the outline of that country, it is the outermost line that can be drawn and yet be contained in that country. So, too, the outline of a jar or leaf is the outermost line that defines the exact boundary of the jar or leaf; it is true we can see no distinct black line surrounding these objects, yet without shading there is no way of defining the shape except by a line. But it should be remembered that it is either the extreme outside of the line or its innermost edge that gives the *exact* form of the object.

For the sake of a neat appearance such an outline should be of even thickness throughout, and should be at first drawn very lightly indeed, and when found correct, strengthened to the required depth.

One of the greatest difficulties in elementary drawing is to represent objects that are lying down, so as to give them the actual appearance of lying down flat. The difficulty lies in our not realising fully *the great foreshortening that takes place in receding surfaces and lines.*

For this reason so many examples of foreshortened blocks have been given. They may not be interesting to draw, but they explain better than more complicated models would do the difficulties of foreshortening and how to overcome those difficulties. They go, as it were, to the root of the matter and enable us to start upon a good foundation, and so the student is advised not to skip over them if he is in earnest in his wish to learn to draw. If we go carefully through this preliminary stage, *not using these examples as mere copies*, but as guides to drawing similar positions from similar blocks for ourselves, we should have little difficulty when we proceed to draw other foreshortened surfaces, such as those of tables, chairs, boxes, books, and leaves, &c., from nature. The principle is the same for both blocks and leaves—namely, that the length of the foreshortened line or surface should be carefully compared with some given horizontal or vertical line or surface in our drawing. If this is done, and carefully practised, the eye will soon learn to see these foreshortened parts correctly for itself. It should be remembered constantly that *every receding line or surface is sure to be foreshortened* to some extent, and that these foreshortened lines or surfaces are so many traps for the unwary or untrained eye.

F draw a vertical line as before, parallel to AB , and find the length of FG as you found CE ; then get the height of HG as you found the height of the side DE , join BG and AH and AD ; then draw the line HK of the top of the block, it will be almost parallel to AD , but the end K will be slightly nearer D than H is to A (KD being further away than AH (although actually the same size) appears smaller and so draws together the lines HK and AD); to get the point K , fix on the ground exactly under K a point J ; find the length of JC , then erect a vertical line cutting the line HK in K , join KD .

Notice that HG , being further away than AB , appears slightly shorter, and consequently draws together the lines AH and BG ; and HK appearing slightly shorter than AD draws together the lines AH and DK . This appearance may be difficult to observe in such small drawings, but if you were to continue, say, the sides AH and BG some distance, their drawing together would become very obvious. The *receding* and parallel lines GB , AH , and DK , if produced far enough, would ultimately meet (or vanish as it is called) on the horizon. BE , AD , and HK , being also receding parallel lines, will also vanish in one point on the horizon, and that vanishing point will be on the horizon because both these sets of parallel lines are *parallel to the surface of the earth*.

Draw a vertical line AB of any suitable length for the nearest edge of the block. On the ground line exactly under the side DH fix a point C ; for your drawing get the length of CB by measurement into AB and under the side FK find the point E , getting the proportion of BE with CB (as AB is long); then get the lengths of EK and CH and join BK and BH : draw vertical lines from K and H for the sides of the block, getting carefully

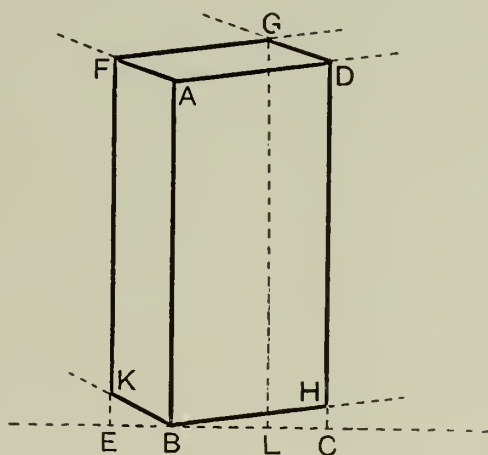


FIG. 14.

the height of these sides in proportion to AB ; join FA , draw FG almost parallel to AD , but the space between G and D must be slightly less than the length of FA ; imagine a point on BC on the ground line exactly under the point G , find the exact position of this spot L in your drawing by comparison with BC and draw a faint vertical line to meet the line from F ; where it meets that line will be the point G , join GD .

Draw the front of the lower block A, B, C, D on the ground line, and get the correct distance of the line EF on its upper surface from AD. If a pencil is held vertically at BA the slope of the side AE will be found without difficulty; DF slopes in exactly the same angle. Bisect BC in N and from N erect a central vertical guide line. The upper block is exactly the same size as the lower one; the only point of difficulty is to get

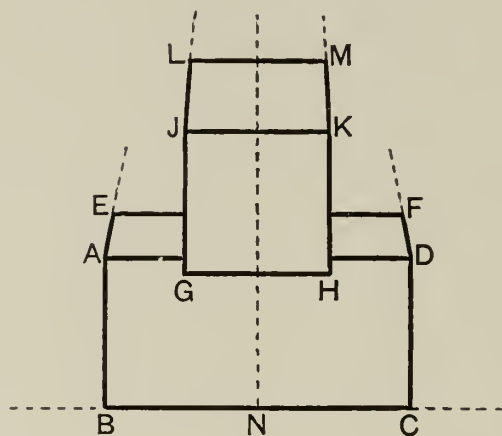


FIG. 15.

the exact depth that the line GH is seen below AD, therefore compare this depth very exactly on the line AB; the front of the upper block is a square, so every side will be the same length as AB. The line JL is actually exactly the same length as AD or BC, but as we see it now it will measure considerably shorter than AB as it is greatly foreshortened. Notice that LM is less than JK, and EF than AD.

The drawing of these two blocks should not be difficult after the previous practice. AB will be the standard of measurement. Draw the front of the lower block $ABCD$, and then compare carefully the space AH with AB , and having fixed H in your drawing, make HJ the same length as AD and finish the front of the upper block. On the ground line fix a point E exactly under the side FG , get the length of BE carefully with AB or AH , then from E draw a vertical line parallel to AB , on it mark off EF , join BF , and then make the side FG very slightly shorter than AB ; join AG , from G draw a horizontal

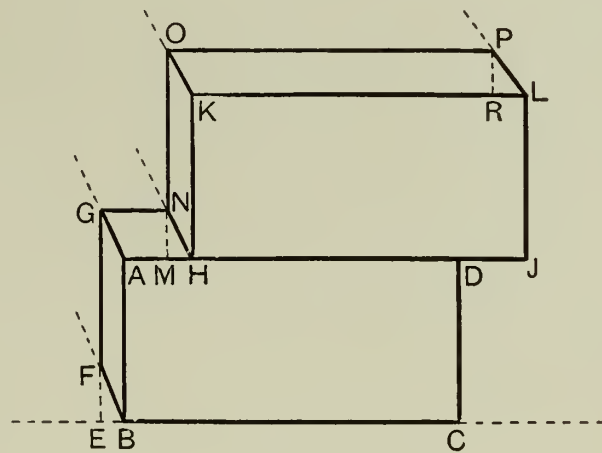


FIG. 16.

line parallel to AD : find on AH the point M under the side NO and erect a vertical line cutting the line from G in N ; next measure the space between the lines KL and OP of the upper block very carefully, and draw OP at its right distance from KL ; the angle of the line LP may be obtained by dropping a line from P to cut the line KL in R ; get the exact length of RL in comparison with AB or AH and in your drawing erect a line from R to meet the horizontal line above; where they meet will be the point P ; then join LP and OK .

Notice that we see less of the upper surface of the top block than of the upper surface of the lower one, because the

top block is nearer the level of our eyes; for the same reason if a third block was placed on the second we should see still less of its upper surface, and if a fourth block was added, still less again of its upper surface, and so on less and less of the top of each added block until at last we see nothing of the upper surface of the top block.

On the ground line erect AB , the nearest edge of the lowest block. Find the point C on the ground line exactly under the side DE , then make BC and CD in your drawing in their

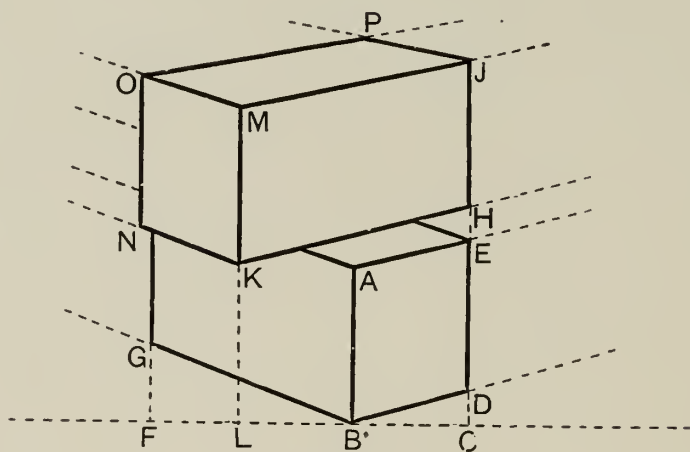


FIG. 17.

proportions to AB ; join BD , from D draw the side DE , noticing very carefully how much shorter DE is than AB ; join AE . Then on the ground line find F under the further side of the block; in your drawing get BF and FG in proportion to AB . It will be well to complete *the whole* of the lower block (the upper block may be removed for this purpose and replaced when the lower one is drawn). To obtain the upper block find a point L on the ground line exactly under the side KM ; get the lengths of BL and LK by measurement with AB (LK will be very little longer than AB), then continue LK to M , making LM the

same height as AB ; for the opposite end of the length of the upper block continue the side DE of the lower block upwards. Measure EH very carefully into AB ; when it is found in your drawing get the height of HJ in proportion to AB , and join KH and MJ ; it will be easily noticed how far outside the lower block to draw the side NO , the completion of the rest should be easy now.

The drawing of the block on the ground line should require no explanation now. To obtain the leaning block, get carefully on the ground line the point j exactly under point κ on which

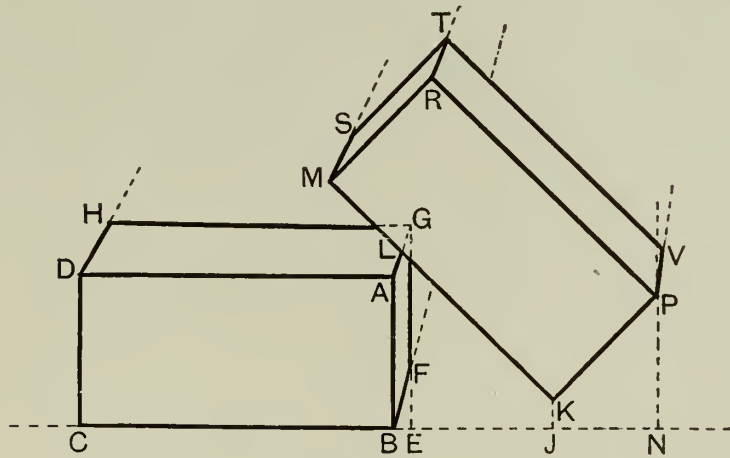


FIG. 18.

the block rests ; then on A G get carefully A L, and from J the distance J K that the leaning block is distant from the ground line. From K draw a line through L and continue it to M, making the line K M rather shorter than A D or B C because it is further away from us. Then on the ground line find the point N exactly under the extremity P of the line K P, and find accurately for your drawings the lengths of J N and N P ; then join K P. From P draw a line P R parallel to M K and of the same length. Join M R. Measure carefully the space between the lines M R and S T, and between R P and T V. Get these spaces for your drawing by comparison with A B ; then draw the lines S T and V T,

they will meet at T . Join TR . If the vertical line NP from the ground line be carried up, the angle of PV can be easily noticed by comparison with that line; get the length of TS by comparison with MR , and join MS .

Notice that the parallel lines KM PR and VT *do not recede from us* and therefore are not foreshortened and have no appearance of ultimately meeting if produced far enough. The same thing may be noticed as to the parallel lines ST and MR .

Notice that the whole of the front of the leaning block is *smaller* than the front of the block on the ground line *because it is further away*. The two blocks are exactly the same size in reality. Perspective tells us that the further an object is away from us the smaller it appears, and measurement will prove that theory to be correct.

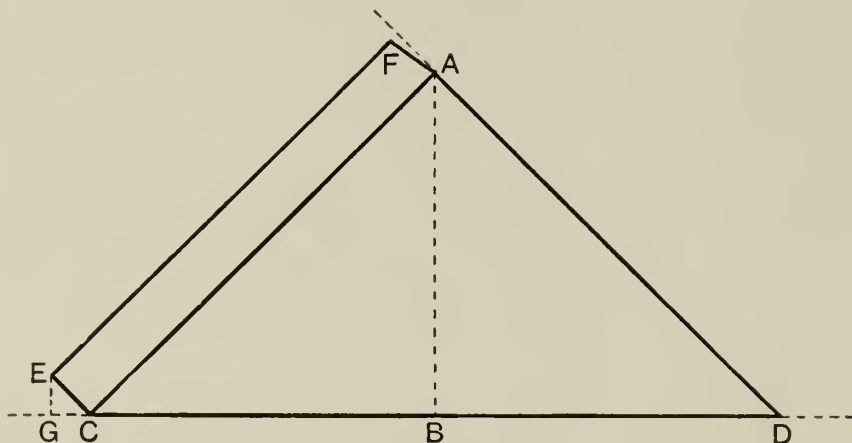


FIG. 19.

Draw a horizontal ground line for all these drawings on both papers. Draw a vertical line AB the height of the block.

From B on the ground line draw BC and BD both in their proportion to AB . Join AC and AD , thus completing the front.

Imagine a line dropped from E to meet the ground line in G ; this will give you GC on the ground line under your model. To get the length of GC for your drawing it will be necessary to

compare its length with that of AB . As the length is very short it will perhaps be confusing to measure it up the whole length of AB . Therefore as CB on the ground line is the same length as AB , divide CB in half and compare the length of GC with the half of CB . The comparison may easily be made thus. Get the length of GE in the same way, and then join CE . From E draw a line parallel to CA ; imagine DA continued in a straight line, the position of F may be easily found below it. Join FA .

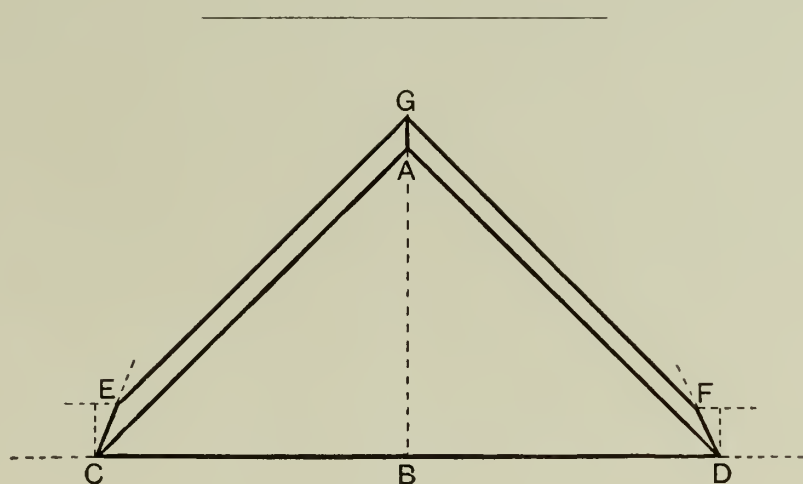


FIG. 20.

Draw AB the height of the block and find the front of the block as in Fig. 19. Find the length and slope of the lines CE and DF by comparison with the half of the line CB which equals AB . From E and F draw lines parallel to CA and DA , meeting BA produced in G .

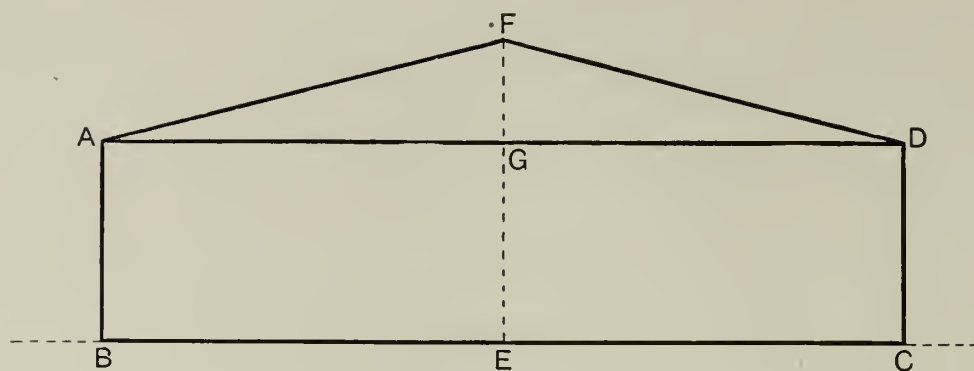


FIG. 21.

Draw AB representing the width of the sides of the block. Find how many times AB is contained in the length BC , and mark off BC on the ground line of the required length; make CD equal to AB in height and join AD , thus getting the front of the brick. Divide BC in E , and from E draw a vertical centre line EG . Continue EG to F , making GF in proportion to AB . Join FA and FD .

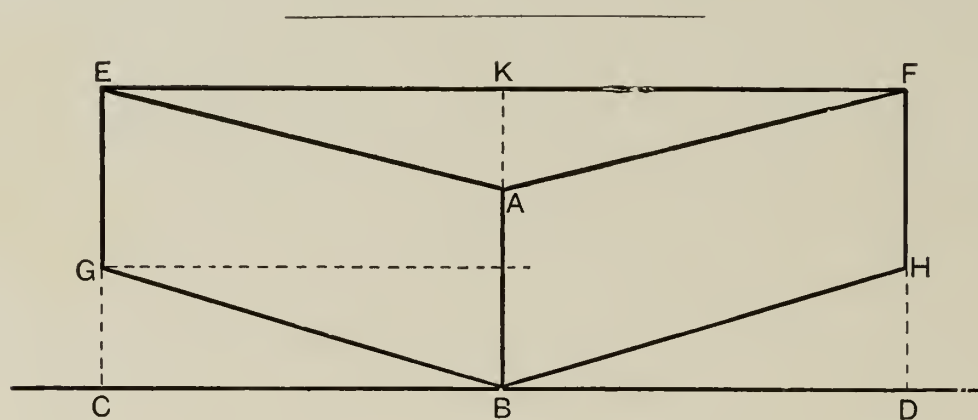


FIG. 22.

Draw AB from the ground line. From B mark off BC on the ground line by finding how many times AB is contained in BC , and then make BD equal to BC . The points C and D are to be exactly under the sides EG and FH . Through A continue BA to K . Obtain K by finding the proportion of AK to AB . Through K draw a horizontal line EKF parallel to CD ; from C and D draw the vertical lines CE and DF to meet the line EKF . Join EA and FA . Find the point G on CE by obtaining the proportion of either CG or EG to AB . Get the point H by making DH equal to CG . Join BG and BH .

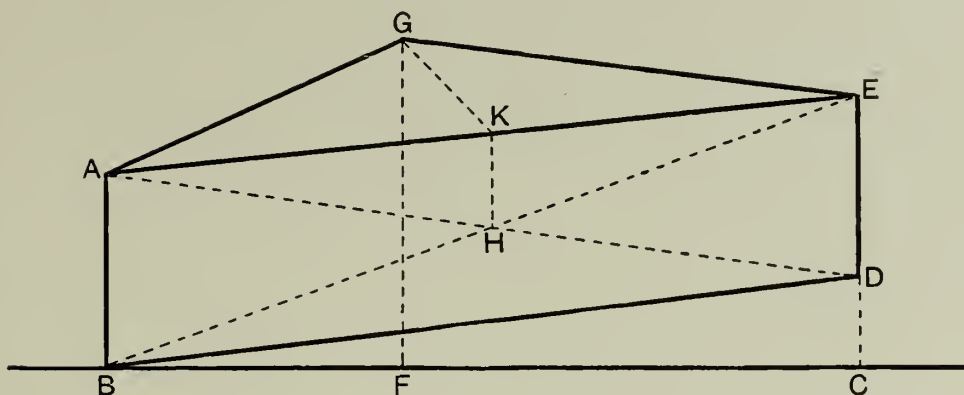


FIG. 23.

Draw AB . Imagine on the ground line a point C exactly under the line ED . Get the length of BC on your drawing by comparison with AB . Draw from C a short vertical line in proportion to AB . Join BD , thus finding the correct slope of the base line BD of the block. Continue CD to E , making DE so much shorter than AB as you find it to be by measurement. Join AE . The next step is to find the point G . Imagine on the ground line a point F *exactly* under the point G . To get this point F in your drawing you must find the exact proportion of AB to BF . Then having found F correctly, draw from F a vertical line FG parallel to AB and fix the exact length of FG by very careful measurement with AB . Then join GA and GE . To find the centre line of the block, proceed as follows. Draw diagonal lines from A to D and from E to B ; where they cross at H is the centre of that face of the block. Through H draw a vertical line to meet AE in K . Then join GK . The line passing through GKH is the centre line of the block.

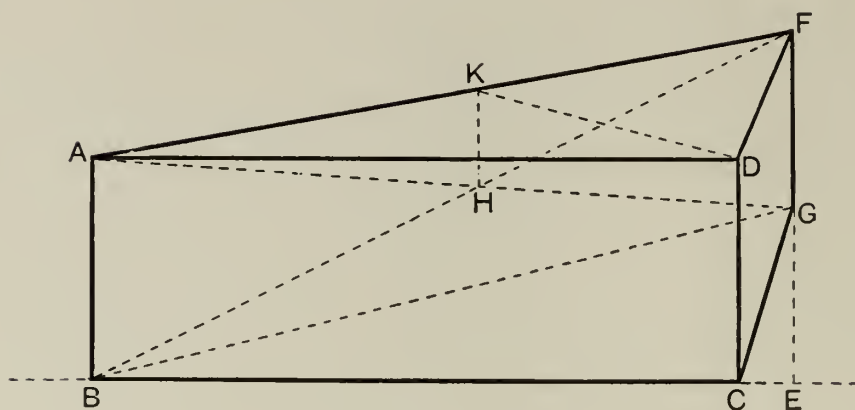


FIG. 24.

Draw AB . Mark off the length of BC on the ground line in its proportion to AB . At C draw CD parallel to AB , and of the same height; then join AD . Imagine a point E on the ground line exactly under the side FG . Get this point in your drawing by comparing the length of CE with AB . Then from E draw a vertical line parallel to CD . Mark off on this line EG and GF , getting these measurements separately and each being compared carefully to AB . Then when found join AF DF and CG . To obtain the centre line KD , you must imagine you can see the hidden side of the block, and in your drawing join AG and FB with very faint lines. Through where they meet in H draw a vertical line to meet AF in K . Join KD , the line passing through KD , and C is the centre line of the block.

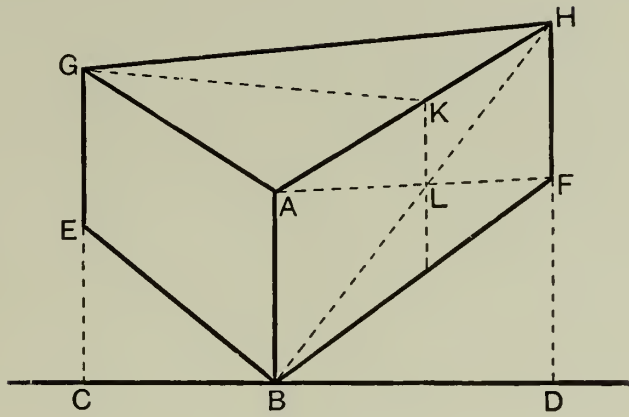


FIG. 25.

Draw AB . On the ground line find the points C and D *exactly* under the sides GE and HF . To get these points in your drawing find the proportions of BC and BD to AB . Through C and D draw vertical lines parallel to AB . Find the lengths of CE and EG and DF and FH by careful comparison of each with AB . Having found these points, join BE , AG , BF and AH and GH .

To find the centre, proceed as before to join the diagonals AF and BH . From L where they meet draw a vertical line meeting AH in K . Join GK . The line passing through GKL is the centre line.

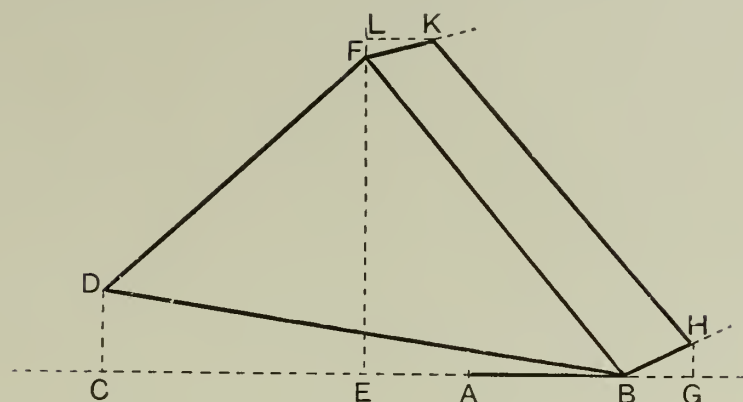


FIG. 27.

Here a slight difficulty arises ; there is no line that can be readily and satisfactorily taken as a standard of measurement by beginners, therefore it is as well to mark *on the ground line under your model* a length AB equal to the real thickness of the block, and to work from this. Draw AB , then mark off BC in proportion to AB . From C draw CD , a vertical line in proportion to AB . Join BD . Imagine on the ground line a point E *exactly* under the apex F of the triangle. Get this point in your drawing by finding the right length of BE . From E draw a vertical line EF . Measure this very carefully with AB . Join FD and FB . Obtain GH as you did CD , and join BH . Find the point K on the side HK by continuing EF to L exactly on a level with K , and draw LK in exact proportion to AB ; FK will be a trifle shorter than BH , because BF and HK recede from us slightly and will therefore eventually meet.

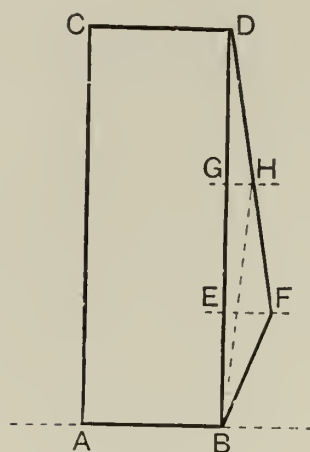


FIG. 28.

Draw AB . From A draw a vertical line in proportion to AB and complete the side of the block $ABDC$. On BD imagine a point E in an exact line with F , and in your drawing draw BE in proportion to AB . Through E draw EF parallel to the ground line and in proportion also to AB . Having thus found the point F , join BF and DF . Find the centre line of the block by obtaining the exact position of G on BD , and drawing a line from G to meet DF in H ; HB will be the centre line: or obtain the centre line by drawing the hidden side of the brick, drawing diagonals from the opposite corners and drawing a line from their crossing point to meet DF in H .

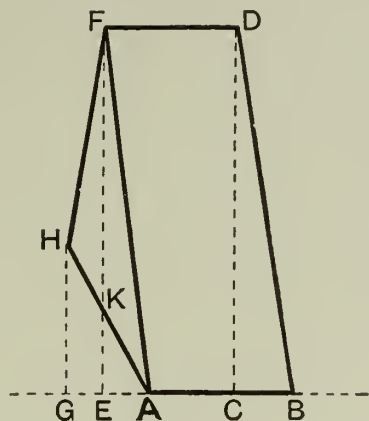


FIG. 29.

Draw AB . Find a point C on AB exactly under D , making in your drawing CB in proportion to AB . From C draw a vertical line CD in proportion to AB . Join DB . Find a point E exactly under F , and from E draw EF parallel to CD and of the same length. Join DF and AF . Find a point G on the ground line exactly under H , making AG and GH both in proportion to AB . Join AH . FK on FE will be the centre line.

The standard of measure has in all these drawings been marked AB . The student should realize by this time the necessity of comparing all measurements in a drawing, as far as possible, with only *one line* in that drawing.

with KF . Through G draw a parallel line to AD . Draw from A and D the lines AH and DH to meet this line HH , and get the angle of the lines AH and DH by finding where vertical lines dropped from HH would cut AD . At the bottom of the block on each inner side will be seen a small portion of an inner semicircle. To obtain the point P , mark a point N exactly beneath P on the ground line, getting accurately the length of MN and NP by comparison with BM . Join MP and then draw the small portion of the semicircle above P . The lines marked AH and DH and the two marked MP are parallel lines eventually meeting at the same vanishing point on the horizon.

“Mental education consists chiefly in exercising the faculties of memory and observation, in learning to be accurate, and in acquiring the power of co-ordination. Drawing, if rightly pursued, is a constant training in all these. It teaches us to observe, to be accurate, to remember, to analyse by dividing complex material into its component parts, and to co-ordinate by putting material together so that it shall form a consistent whole. Besides this it opens the mind to ideas of relation by compelling us to take account of the laws of harmony and contrast.”—P. G. HAMERTON.

“The analogies between learning to see with the eye and learning to see with the mind are so close that one cannot fail to help the other.”—P. G. HAMERTON.

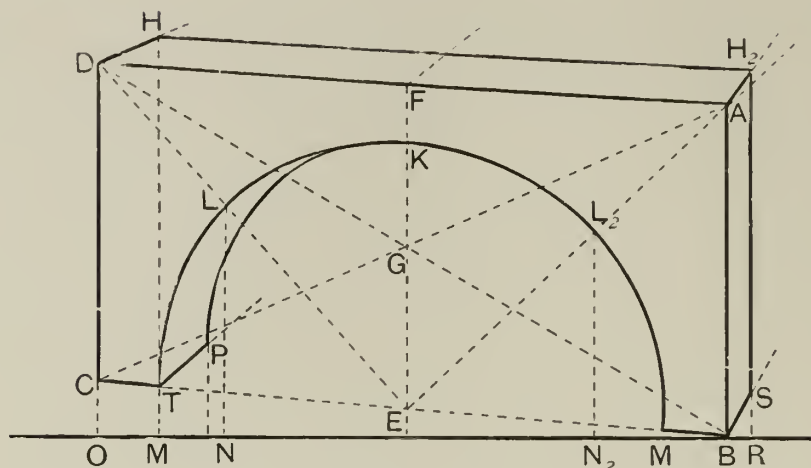


FIG. 31.

From the ground line draw a vertical line AB , the edge of the block nearest to us. On the ground line mark off BO in proportion to AB . Draw from O a vertical line parallel to AB . On it cut off OC by careful measurement with AB ; then make the side CD so much shorter than AB as you find it to be by measurement (it will be shorter as it is further from the ground line than AB). Join BC and AD , thus getting the front of the block. To obtain the centre point E on BC , draw *faintly* on the front of the block, in your drawing, diagonal lines from A to C , and from D to B , where they cross at G will be the centre of the whole front. Through G draw a vertical line parallel to the side AB , and meeting AD in F , and BC in E . E will be the centre point for the foreshortened semicircle. Join EA and ED (the faint diagonal lines may be now rubbed out as their use is over). Find on EF the point K as in Fig. 30; but to obtain the five points as before, through which to draw the semicircle (as it is a foreshortened semicircle the radii are not of the same length) it will be necessary to find on the ground line two sets of points marked M and N (the first length BM can be found by comparison with AB and the other lengths compared with it). Through these points draw vertical lines. Two of the five points will be found where lines from M touch the base line BC , and

two others where lines from NN touch EA , and ED in L . Having already found K proceed to carefully draw the semicircle through the five points. Draw HH^2 almost parallel to AB , but remember that the space between the two lines AD and HH^2 should be very slightly less at the D end than above A , as the two lines being receding parallel lines have eventually to meet together. Find R on the ground line exactly under S ; from R draw a vertical line meeting HH^2 in H^2 . Find S on RH^2 and join BS and AH^2 ; get the angle of the line DH by finding where a line dropped from H would cut AB . Find the point P by means of a point on the ground line exactly beneath it, and draw from P a line to meet the vertical line from M on the base line at T ; then draw what is visible of the inner semicircle. The lines BS , AH^2 , DH , and TP , are parallel, and all tend to one vanishing point on the horizon—the lines BC , AD , and H^2H are also parallel to each other, and also meet eventually on the horizon.

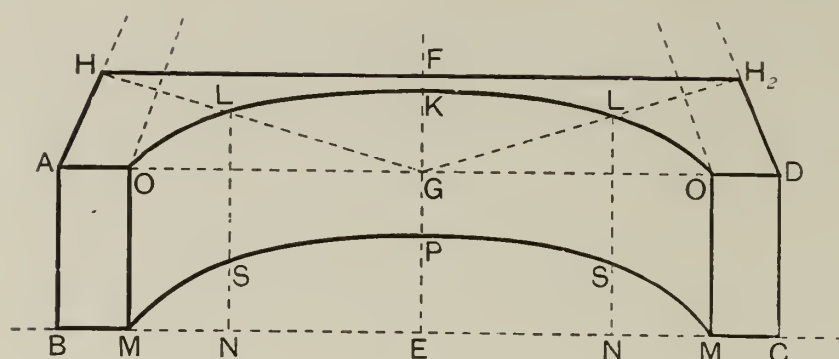


FIG. 32.

Draw the vertical line AB the width of the block. Mark off BC on the ground line in proportion to AB . Draw CD parallel to and of the same height as AB . Join AD . Find on the ground line the centre E . Draw from E a vertical line EF , getting its length in proportion to AB . Through F draw HH^2 parallel to BC the base line. Find the position of the points HH^2 by measuring how much shorter FH is than BE ; then join AH , DH^2 . From the point G where the line from E crosses AD join GH , GH^2 . On BC find the points MM and NN . Draw vertical lines from the points MM to meet AD in OO , and from NN to meet GH and GH^2 in LL . Find K on EF , and then draw the upper semicircle through the five points O, L, K, L, O . Next find on the two lines NL the points SS , and on EF the point P . We have now five points for the lower semicircle, namely M, S, P, S, M . Complete the inner semicircle.

The line GF is on the direct line of sight, and being parallel to AH and DH^2 , the three lines will all meet on the horizon.

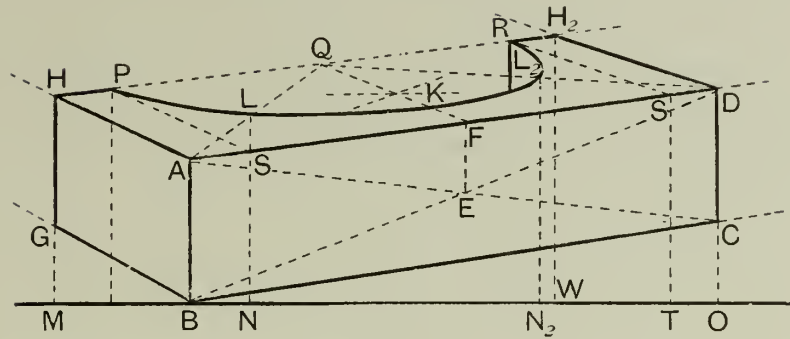


FIG. 33.

Draw on the ground line AB the nearest edge of the width of the block. Find the length of BO ; through O draw a vertical line parallel to AB ; on that line find the point C and join BC ; get the height of CD in proportion to AB . Join AD . On the ground line find the place of M , and from M draw a vertical line parallel to AB . Find on it the points G and H , and join BG and AH . From D draw DH^2 , going to the same point on the horizon as AH , getting the exact length of DH^2 by dropping a line from H^2 to meet the ground line in W , and measuring both WH^2 and WO with AB . Join HH^2 ; the lines AD , BC , and HH^2 being parallel go to the same vanishing point. Find on HH^2 the right lengths of HP and RH^2 . Now to find the centre for the semicircle. On the long side of the block join the diagonals AC and BD ; through E where they cross draw a vertical line meeting AD in F ; again on the upper surface of the block draw diagonals from D to H , and from A to H^2 . Through their point of crossing draw a line from F to meet the line HH^2 in Q . Q will be the centre of the semicircle (the diagonal lines may all be rubbed out now). Join QA and QD . Find on these two lines the points L by means of points below them, on the ground line. Find K . We have now five points for the semicircle P, L, K, L^2, R . Complete carefully.

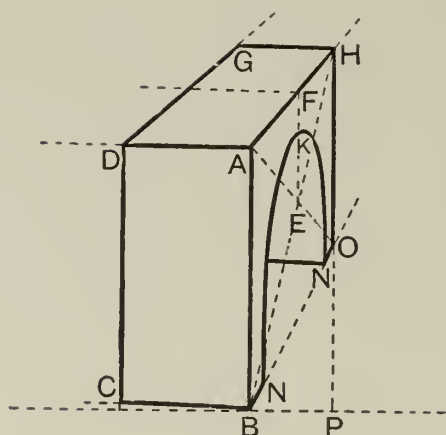


FIG. 34.

From the ground line draw AB , the edge of the block nearest us. Find carefully the height the point c is above the ground line, and draw the side $ABCD$. Find on the ground line the point P exactly under the furthest visible edge of the block; from P draw a vertical line parallel to AB . Find on it the position of O . Join BO , then find the length of OH , and join AH . Through H draw a line parallel to AD and BC —that is, going to the vanishing point. As BC is not horizontal, therefore neither AD nor HG will be horizontal lines. Get the length of HG by comparison with the length of BC . Join DG (DG goes to the same VP as AH and BO). Find on BO the centre of the semicircle by means of diagonal lines from A to O and B to H . Through E draw a vertical line EF ; on EF find the point K , and on BO the two points marked N . These three points, N, K, N , should be sufficient for the drawing of this semicircle. From the point N , near O , draw a line going to the same VP as AD and BC , and so complete the drawing.

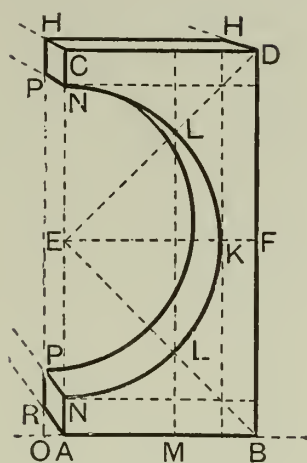


FIG. 35.

On the ground line mark off AB a side of the block, and make all other measurements in proportion to AB . Having drawn the outline of the block (which should be easily done after the practice now had), find the five points for the nearer semicircle as before. The two points LL may in this case be readily found by a vertical line running up from the ground line at M ; and when the nearer semicircle is drawn the further one will not give much difficulty, care being taken to notice exactly the point of contact of the two curves.

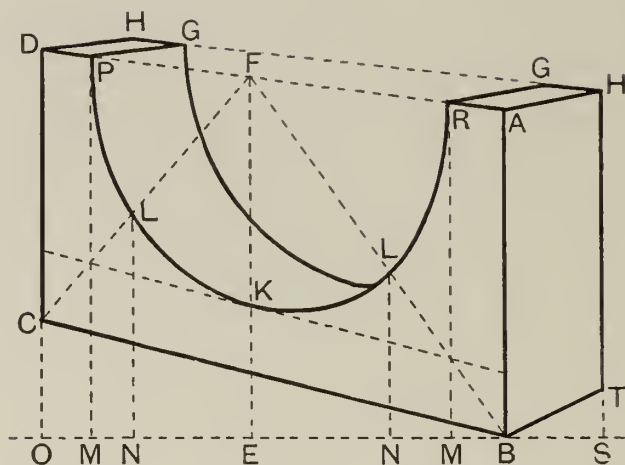


FIG. 36.

Draw AB , the nearest edge of the block on the ground line. Next find the point O on the ground line exactly under the side of the block marked DC . From O raise a vertical line parallel to AB . On this find the length OC and CD , and draw the outlines of the block. Find by diagonal lines the centre F of the semicircle and then five points as before, and through them draw the semicircle, care being taken to note exactly where the two semicircles touch each other.

Note that BT , AH , RG , PG , DH , are parallel lines, and will all eventually meet in one vanishing point on the horizon. Note the same of the lines BC , AD , and HH .

They will meet because they are parallel receding (or fore-shortened) lines.

And they will meet on the horizon because they are parallel to the surface of the earth.

Also notice that in all the examples no *vertical* or *horizontal* lines (although parallel) have any tendency to meet; but all keep exactly the same distance from each other in all their lengths.

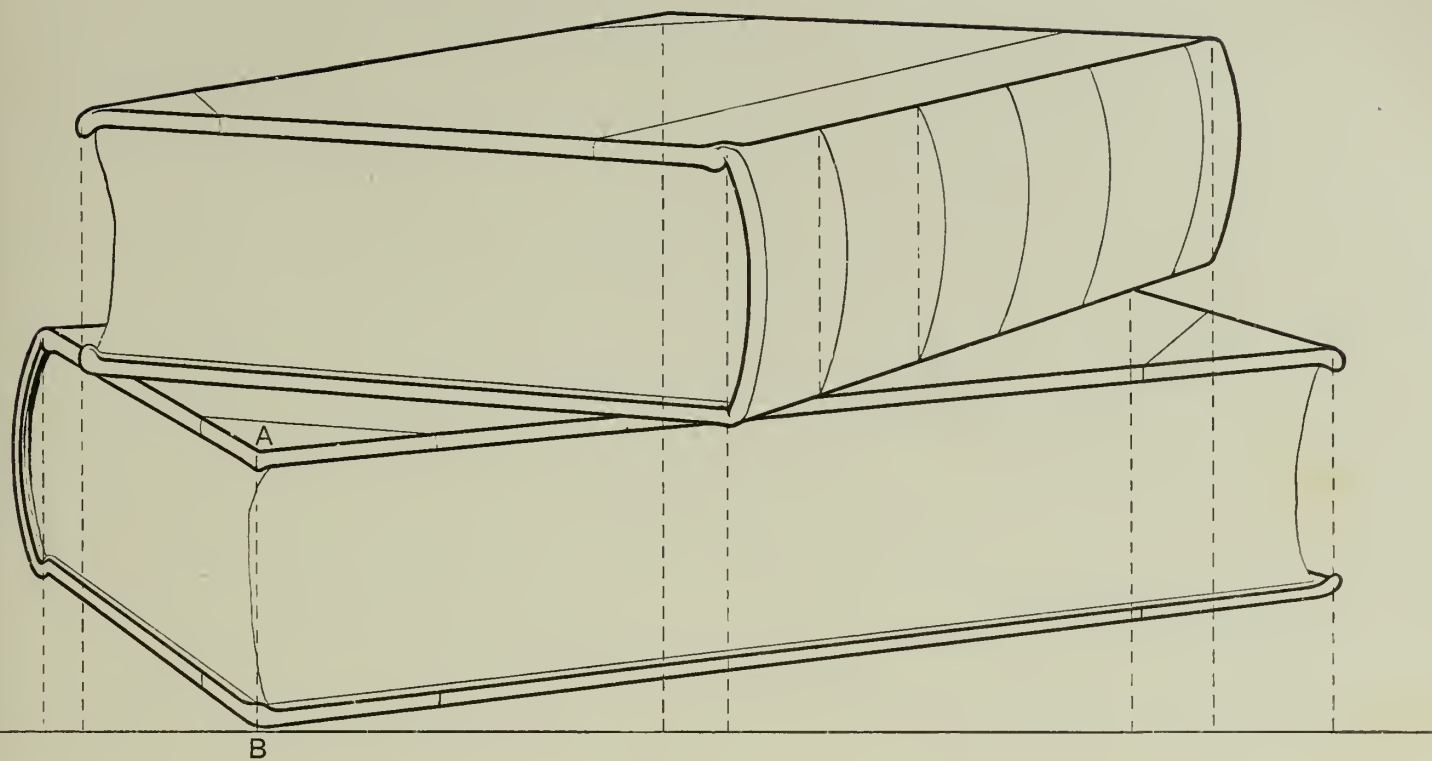


FIG. 37.

Place two books as in the illustration. These books must at first be looked upon simply as two blocks, such as have been given previously.

Draw a ground line, and on it erect the line marked *A B*, the nearest edge of the lower book. Every line in the drawing has to be compared with and drawn in proportion to the line *A B*. The curves of the back of the books should be first drawn as straight lines. Details such as the bent corners should be omitted altogether until everything is in its place accurately. The thickness of the covers should be left to the last also. Be content to see the books simply as two blocks until all proportions are rightly obtained.

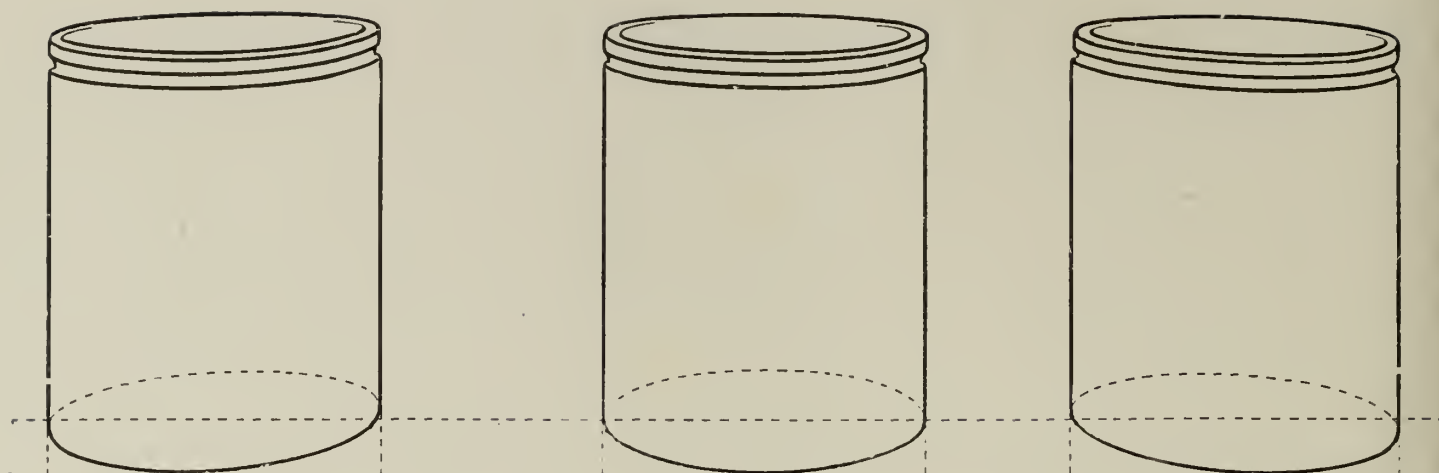


FIG. 38.

The drawing of the three jam pots, with the accompanying perspective drawing, is given to show the appearance of circles lying on either side of the centre line of sight; in comparison with a circle lying exactly on that line of sight. The point to be especially noticed is *where each circumference turns away from our sight*.

In the centre circle notice that the circumference turns away directly it reaches the horizontal diameter, and also that it turns away *equally* on both sides. In the circles on either side notice that the circumference turns away on the inner side *slightly above* the horizontal diameter, and on the outer side, that is, the side furthest away from us, a good deal before it reaches the horizontal diameter; so that when the circumference of any of the circles represents the bottom of a solid cylinder, such as a jam pot or jar, we should only see the circumference as far as the point where it begins to turn away from us: and in the case of the outer circles, we should see very much more of the inner or nearest curve than we should of the outer or furthest curve of the circumference. Place three jam pots, as in the illustration, before you and study the curves carefully.

It will be a good plan also to draw three or more equal circles having their centres on one horizontal line—these circles

to be at uneven distances apart from each other—and to then place this drawing flat before us. These circles may represent the bottom circumferences of jars, and the points where the circumferences begin to turn back should be carefully observed.

When the object to be copied is exactly in front of us, and is *one that has the same form repeated on each side*, it is advisable

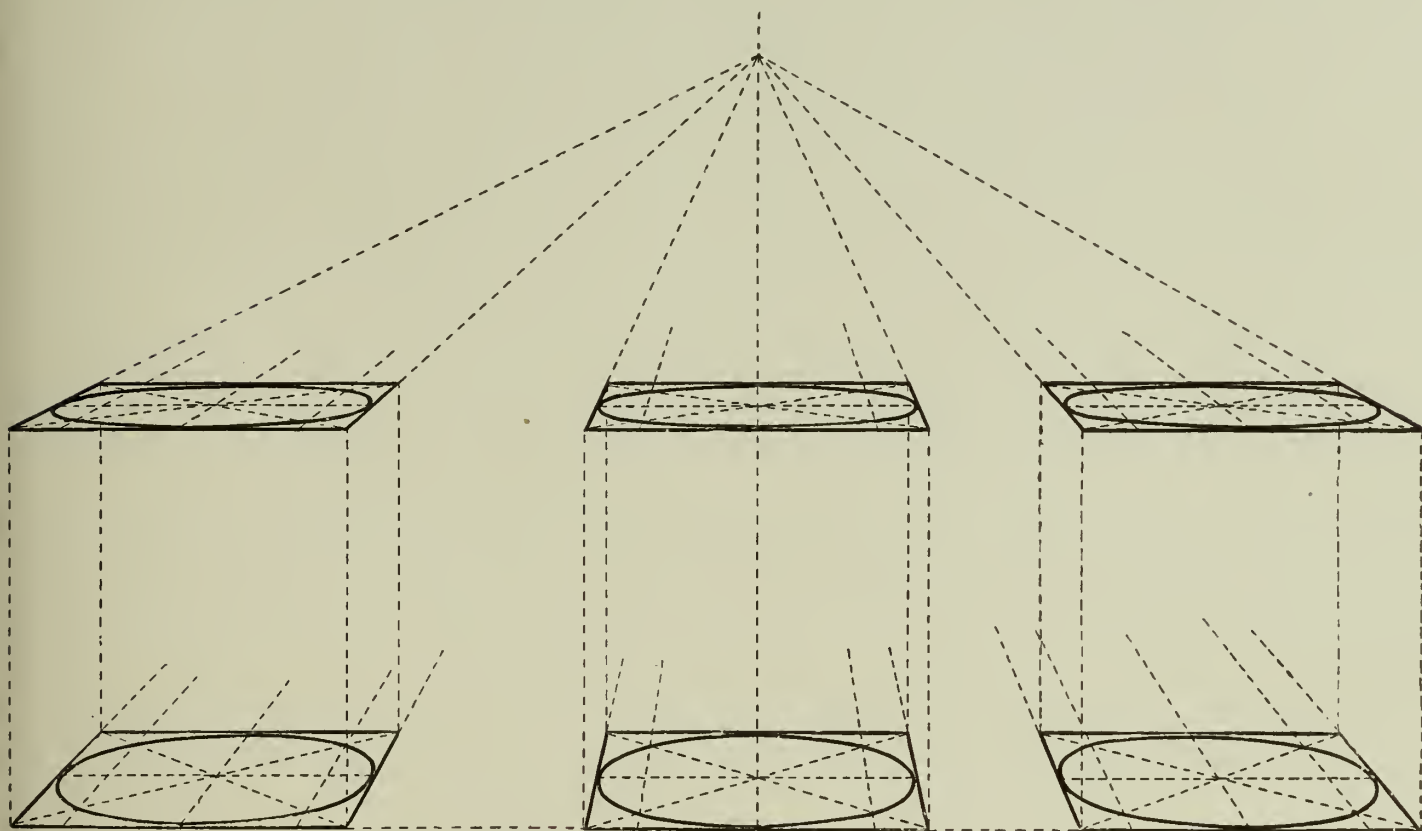
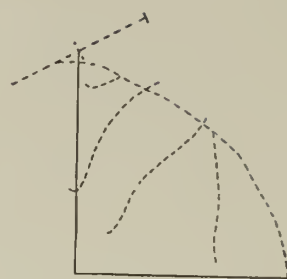


FIG. 39.—Perspective of Fig. 38.

to start the drawing with a centre vertical guide line on which to build the form; this will enable the eye to obtain more readily the balance and proportion of each side. This refers both to direct drawings from actual models, such as jars, cups, glasses, bottles, pillars, &c., as well as to outline copies from the flat of such objects whose shape is the same on each side.



Guide lines for drawing
walnut leaves.

FIG. 40.—Walnut leaves.

Where the form is not the same on each side a centre vertical guide line would be useless. In leaf drawing the direction of the centre vein should be taken as the guide line; in fruit the guide line should be drawn through the centre of the core.

Having drawn such a centre vertical guide line on which to build say a jar, such as is given in the illustration, obtain next the proportions of the height and width to each other.

The width at the base of the jar has been marked on the ground line as A B. Compare this width with the height; now, if the pencil is held carefully and vertically so as to apparently touch the jar at its widest part, it will also cut the ground line at F on one side and G on the other. The distance of F from A can readily be obtained; G will be the same distance from B. From F and G draw vertical lines parallel to the centre line, and as high as you have found the height of the jar should be. Join them by a line parallel to the ground line, and you will

have a rectangular figure in which to draw the jar. The lines from F and G will also be found useful in drawing the handles. Lines from D and E will show how to get the width of the mouth and neck of the jar. In the illustration dotted horizontal lines will be found at the base of the principal curves of the jar, namely, the mouth, neck, and shoulder. Where such curves occur in an object a horizontal base line for each curve will be

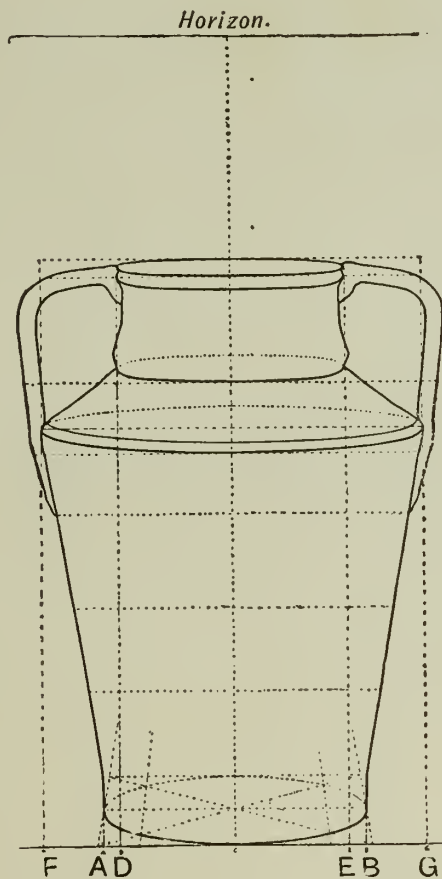


FIG. 41.

found of assistance in getting a true curve; and whenever you have a curve which you can see to be the only visible part of a foreshortened circle that is otherwise hidden, it is always better to very faintly *draw the whole curve* of the foreshortened circle. You will be almost certain to get a better and truer curve in the part you do see by this means. When you have obtained the exact position of the lines at the base of the curves, and lightly indicated the curves themselves, do not draw the whole of

the outline on one side first, but draw a small portion of one side first, and then the corresponding portion on the other side, and so on. The correctness of your outline may be afterwards checked by drawing faint horizontal lines across the jar. See that the lines are of the same length on each side of the centre guide line. If there are natural horizontal lines crossing the object take advantage of these as guide-lines. *Should there be any details in the outline, leave them all out until the general shape of the whole has been obtained.* Draw your light sketching lines from each starting point right through all detail to the next most important point. Then when the general shape is obtained return and put in the most important details only, and so by degrees add other details in their relative importance, until at last the most minute are added. Nearly all jars and glasses and similar objects can be drawn in the above manner. Guide lines will suggest themselves to the student from the form of each object, but the principle, in drawing all such things that have a similar shape on each side, is the same.

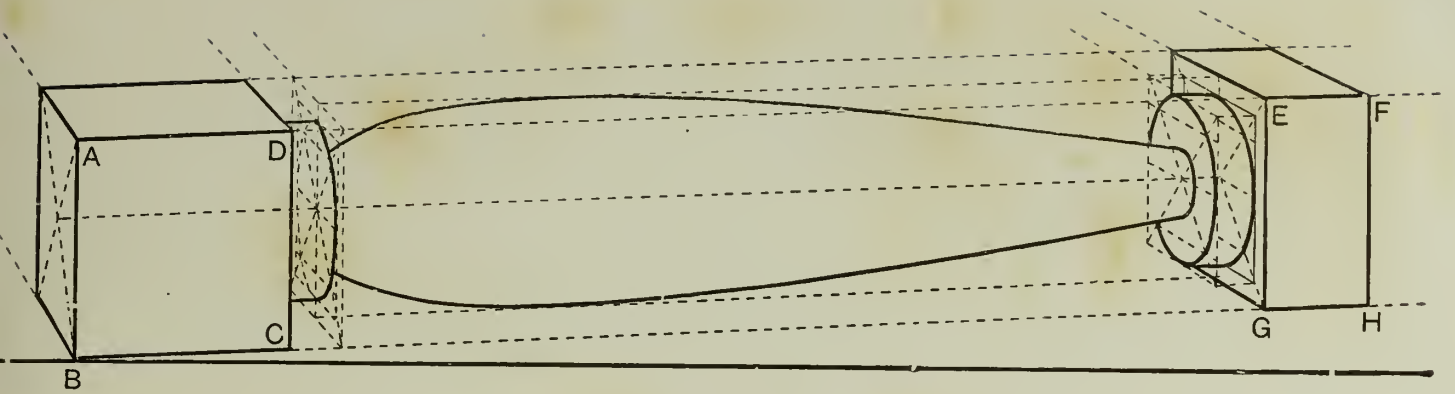


FIG. 42.

This pillar should be first drawn as a long narrow block, as it was originally before being turned in the lathe. Draw a ground line. The nearest vertical edge AB is to be the standard of measurement. Proceed as in former drawings of blocks, measuring AB into the length BH , and get the angle at which the pillar lies by measuring carefully how far H will be above the ground line. After the block is drawn as a whole, proceed to mark off the portions $ABCD$ and $EGHF$ in correct proportion to AB and to each other. The chief difficulty is in the circles—the perspective of these circles is given. The circumference of each circle should be drawn completely round at first; the part that is not required may be rubbed out when the true curve is obtained. Before drawing the shaft of the pillar draw its centre line; this centre line will naturally pass through the centres of the circles. For the sake of practice the student should draw this pillar in many positions.

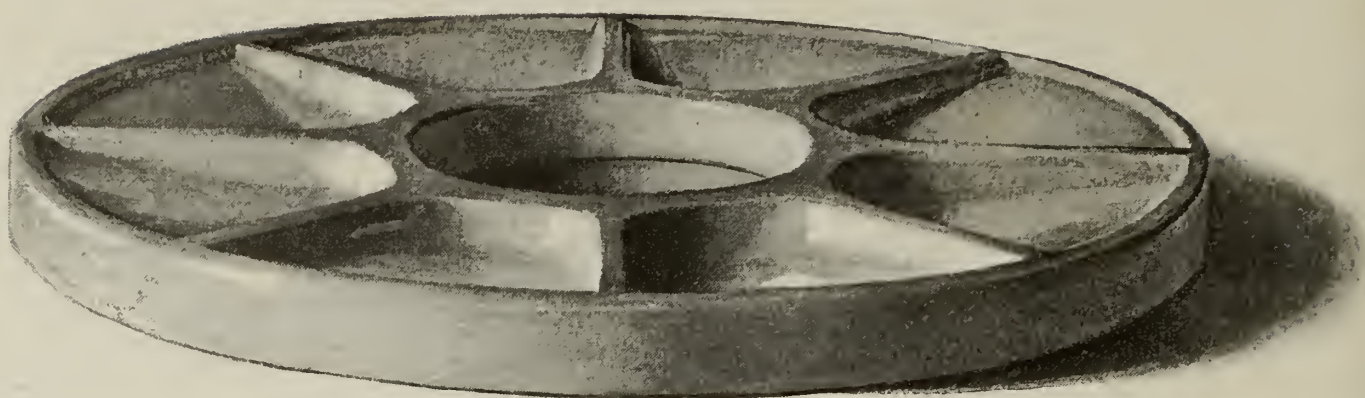


FIG. 43.—China palette.

Start with a ground line on your paper, and before your model. Draw AB equal to the depth of the palette. AB will be our standard of measurement. Find how many times AB is contained in AC (the distance across the palette *as it appears to us, not as it really is*) and draw on your paper a vertical line AC in due proportion to AB . On your ground line mark off AD and AE equal to each other, and both in proportion to AB . Through C draw a horizontal line FG , parallel to the ground line and of the same length as DE . Join DF and EG , thus making an enclosure to contain the drawing. Find the diameter HJ by measuring the number of times AB is contained in DI ; then from H draw HJ parallel to the ground line DE . Where HJ and AC cross will be found O , the centre of the palette. *Note that BO is longer than OC .* Find the point K by fixing exactly below it on the ground line

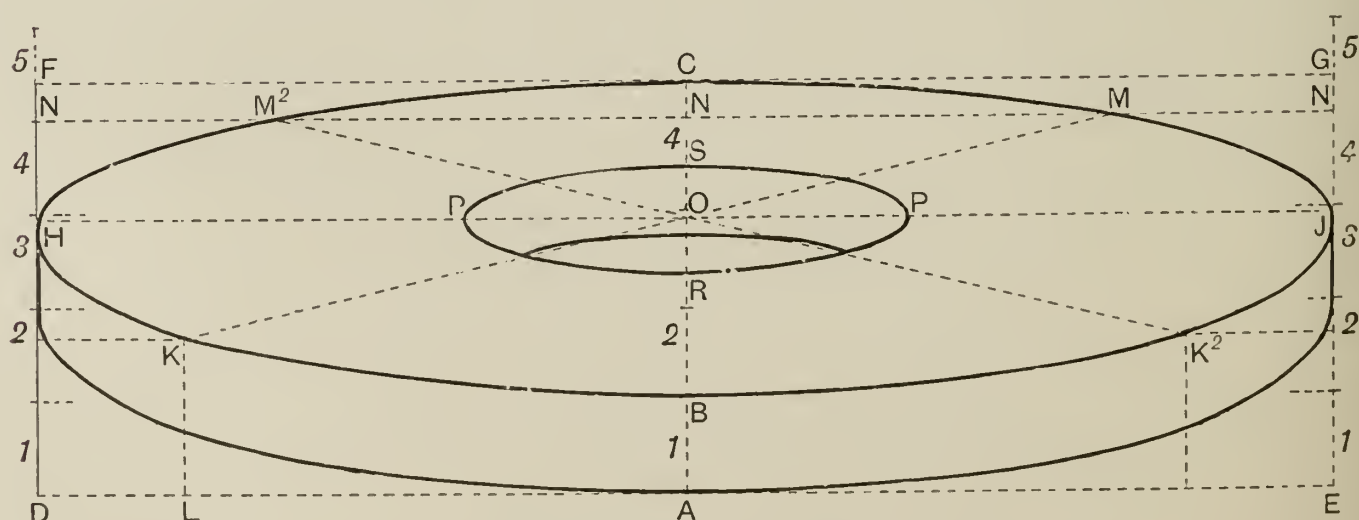


FIG. 44.—China palette placed exactly in front.

a point L , and making DL and LK in proportion to AB , and find the point K^2 in a similar way. Join KO and K^2O , and continue these lines to M and M^2 . If the pencil is held horizontally between these two points, M, M^2 , their level below C can be found at N , on AC . Through N draw a horizontal line parallel to the diameter HJ ; on this line will be the two points M, M^2 . Having now obtained the points H, K, B, K^2, J, M, C , and M^2 complete the circumference of the foreshortened circle. Find the length of the diameter PP of the small interior circle by its proportion to the longer diameter HJ , and as BO is longer than OC so RO will be longer than OS . Through the points P, R, P, S , draw the circle. The circumference at the base of the palette will be comparatively easy.

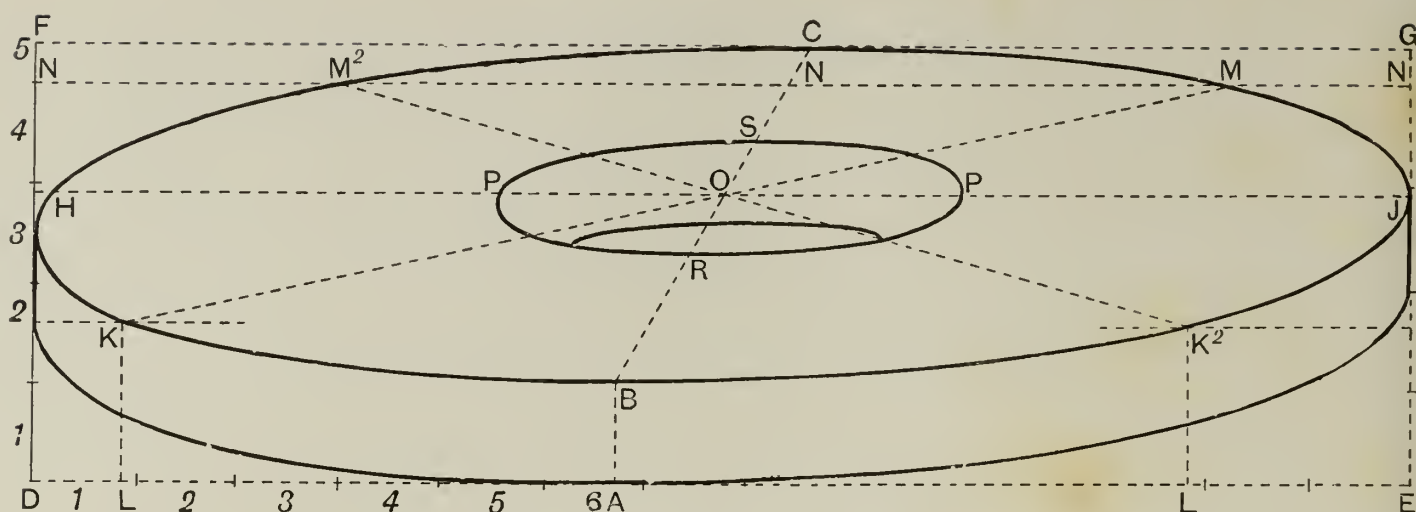


FIG. 45.—China palette placed on the left of spectator.

Draw a ground line, and draw AB the depth of the palette. Mark off on the ground line from A , AD , and AE , both in proportion to AB , that is, by seeing how many times AB is contained in each of them. At D draw a vertical line DF to represent the height of the upper surface of the palette, in proportion to AB . (On DF for convenience' sake mark off a scale, each division being equal to AB .) At E draw a vertical line parallel to and equal to DF . Join FG . We have now an enclosure as before in which to draw the palette. Imagine or fix on AE a point x exactly under c , the extremity of the diameter going from B . Find x in your drawing by getting AX in exact proportion to AB . From x raise a vertical line cutting FG in C . Join BC . BC should now have its right inclination.

Find the horizontal diameter HJ by getting the exact position of H on DF . Through H draw HJ parallel to the base line DE and cutting BC in O . O will be the centre of the palette. Find the points K and K^2 by making DL , and LK , and EL , and LK^2 , in exact proportion to AB . Join KO and K^2O , and continue these lines to M and M^2 on a supposed line drawn below c at N , as in the previous drawing. Having thus obtained the points H , K , B , K^2 , J , M , C , M^2 , complete the circumference of the circle. Find the diameter PP of the inner circle by its proportion to the longer

diameter HJ , and as BO is longer than OC , so RO will be longer than OS . Through the points P, R, P, S draw the interior circle. The circumference at the base of the palette will be easy to draw.

Note especially that the point where the lower circumference rounds out of sight is higher on EG —that is, where it is nearer to us—than on DF where it is further away.

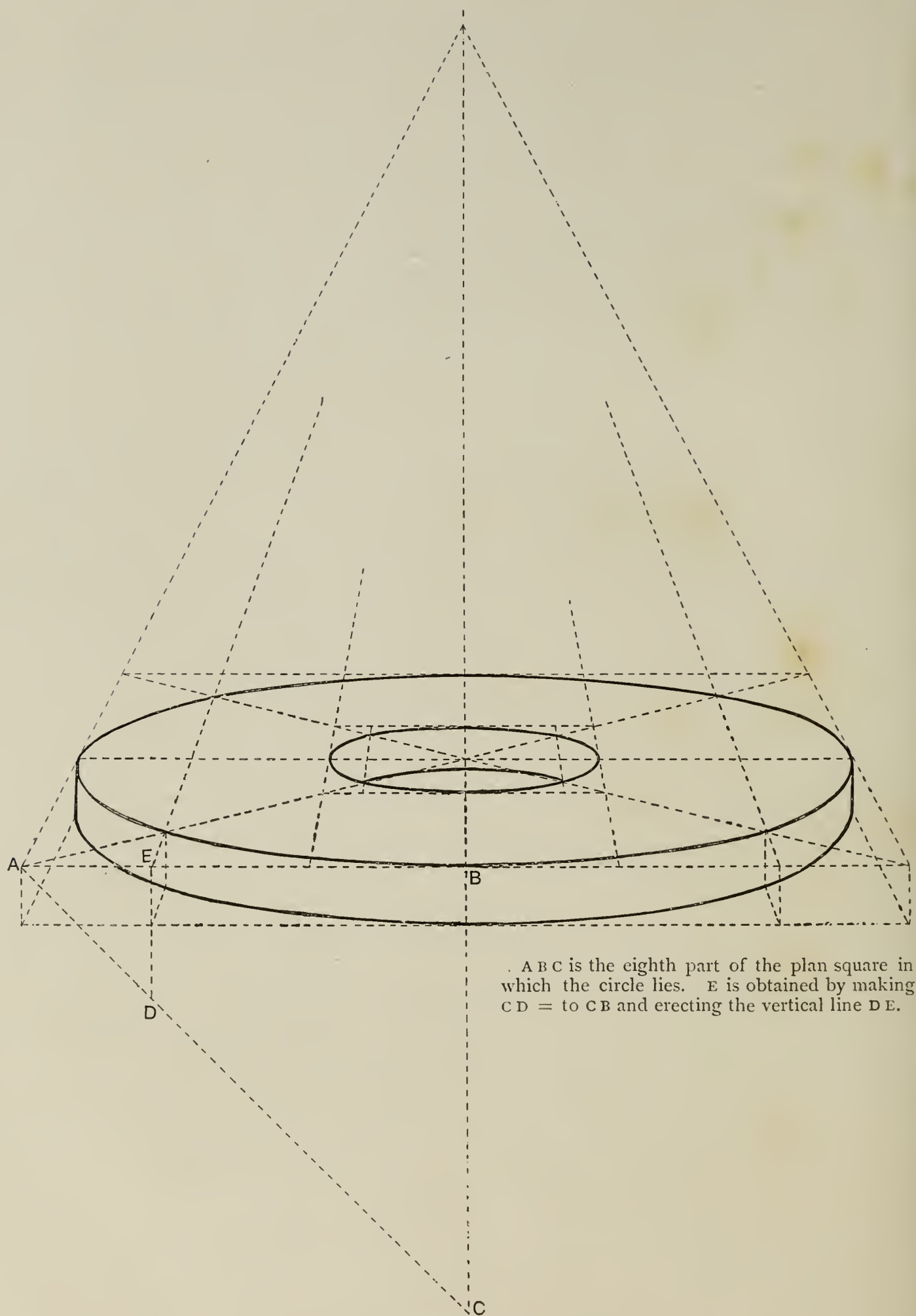


FIG. 46.—Perspective of Fig. 44.

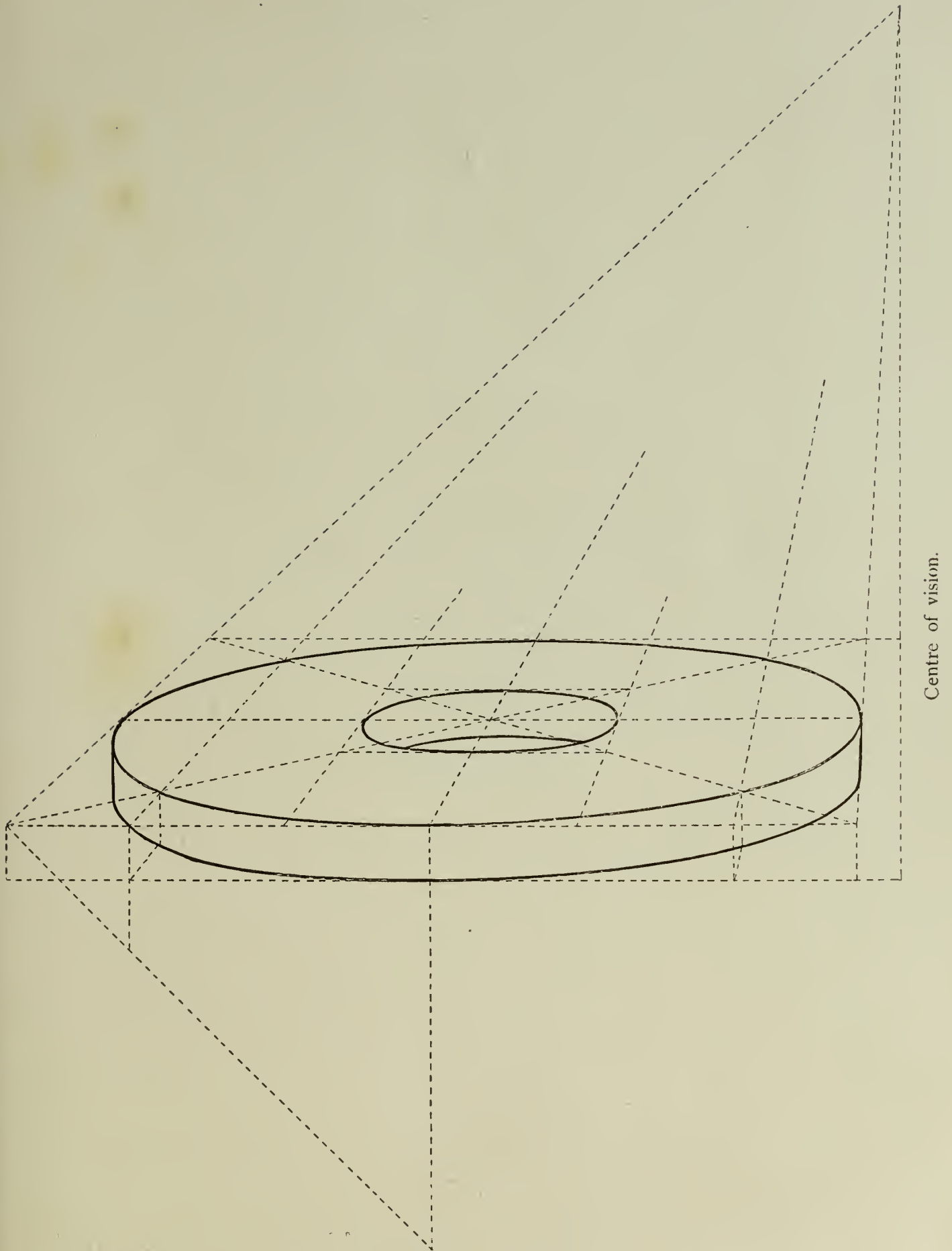
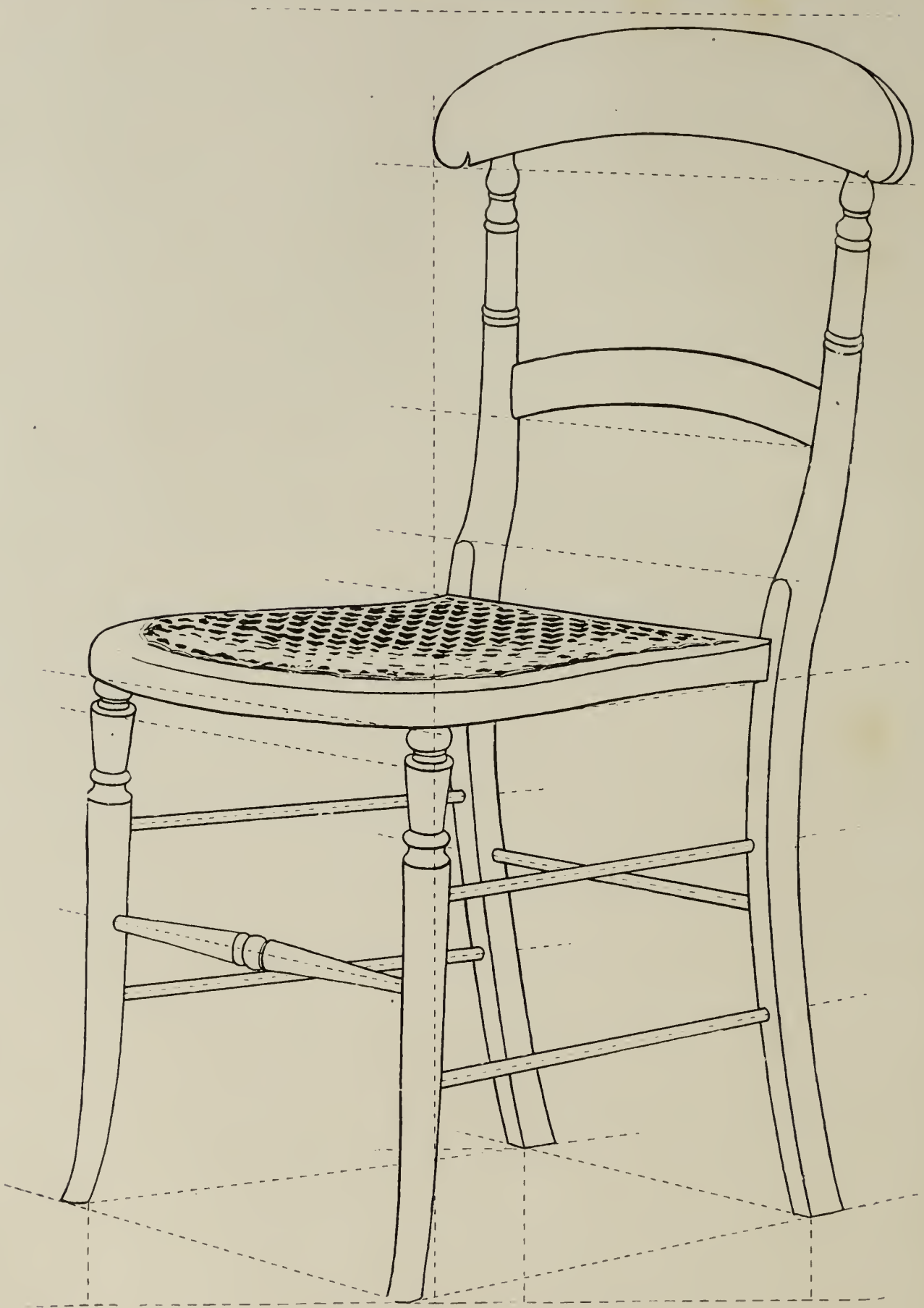


FIG. 47.—Perspective of Fig. 45.



IG. 48.

A drawing of a chair has been given chiefly to suggest to the student how to make for himself the necessary construction plan.

In this drawing the height of the nearest leg has been taken

as a standard of measurement ; and the principle on which all the drawings of blocks, &c., have been made has been followed throughout this drawing.

Every measurement that it has been necessary to make has been compared with the length of the nearest leg. At the foot of this leg imagine a horizontal ground line, or for a first drawing mark the line with white chalk, or by a string or thin rod stretched on the floor.

Dotted lines will be seen in the illustration coming from the foot of each leg to the ground line. The comparative distance of each foot from the ground line must be most carefully studied, and also the spaces between the legs ; measure these spaces on the ground line.

A line dropped from the outermost edge of the chair's back will give several points of assistance.

With regard to the perspective of the chair, as the space between the back legs is nearly always in a chair narrower than the space between the front legs, the dotted lines in the illustration going from the front legs to the back legs on the ground *will not be parallel* lines, and therefore do not go to the same vanishing point.

The dotted lines on the ground going to the left from leg to leg *will be parallel*, as both the back legs are at the same distance from the front legs.

All other perspective lines in the drawing readily explain themselves. A plumb-line will be found of great assistance in determining the position of points above or below other points, how far the back of the chair overhangs the back legs, &c., &c. Such a plumb line can be easily made by fastening any heavy weight to a length of fine string or thread. If this line is held up by one end, it is, when steady, perfectly vertical.

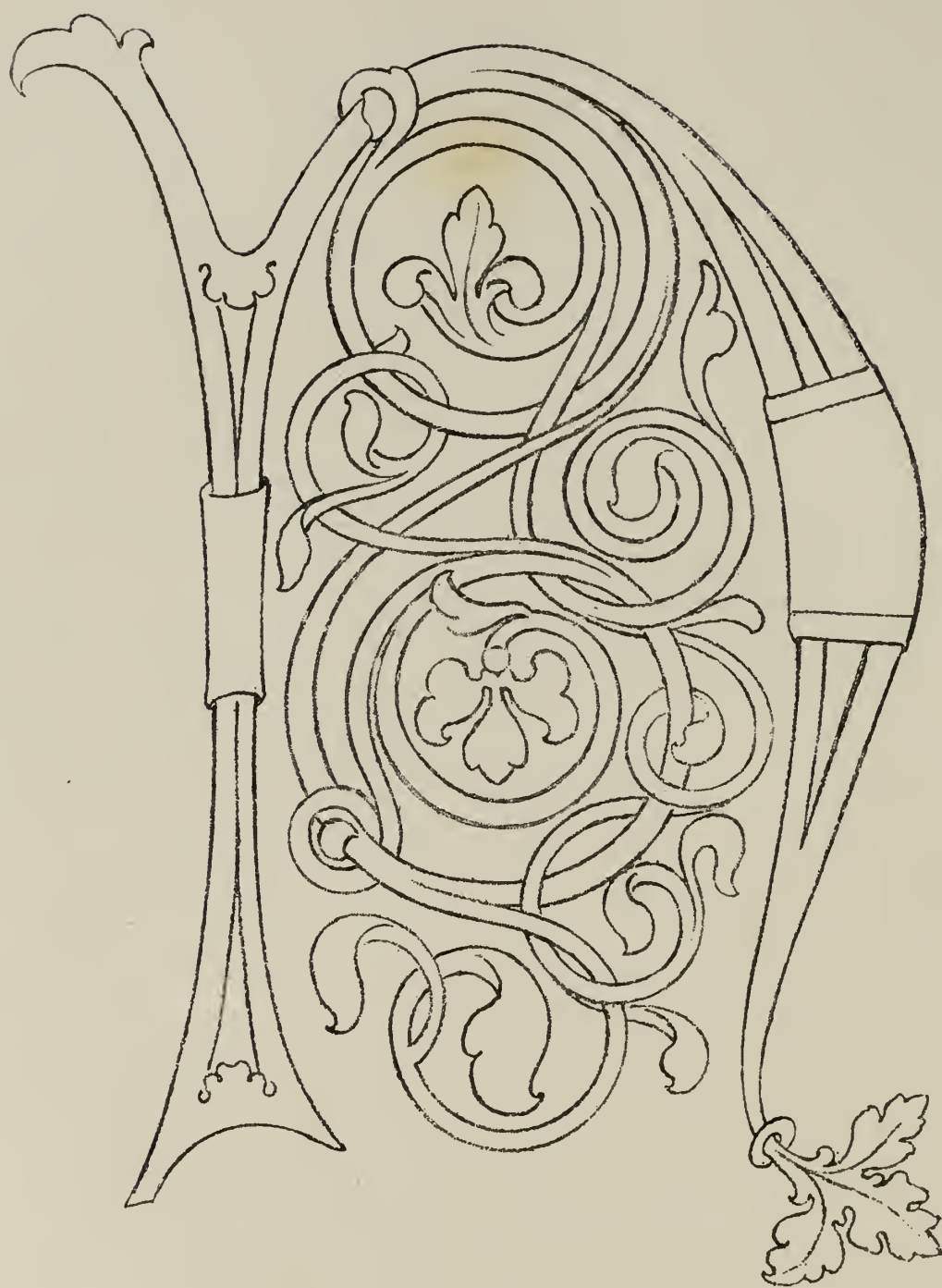


FIG. 49.

The student is advised to now draw at intervals from freehand outline copies, as a change to his other work, and to enable him to appreciate the charm of good line work. The South Kensington

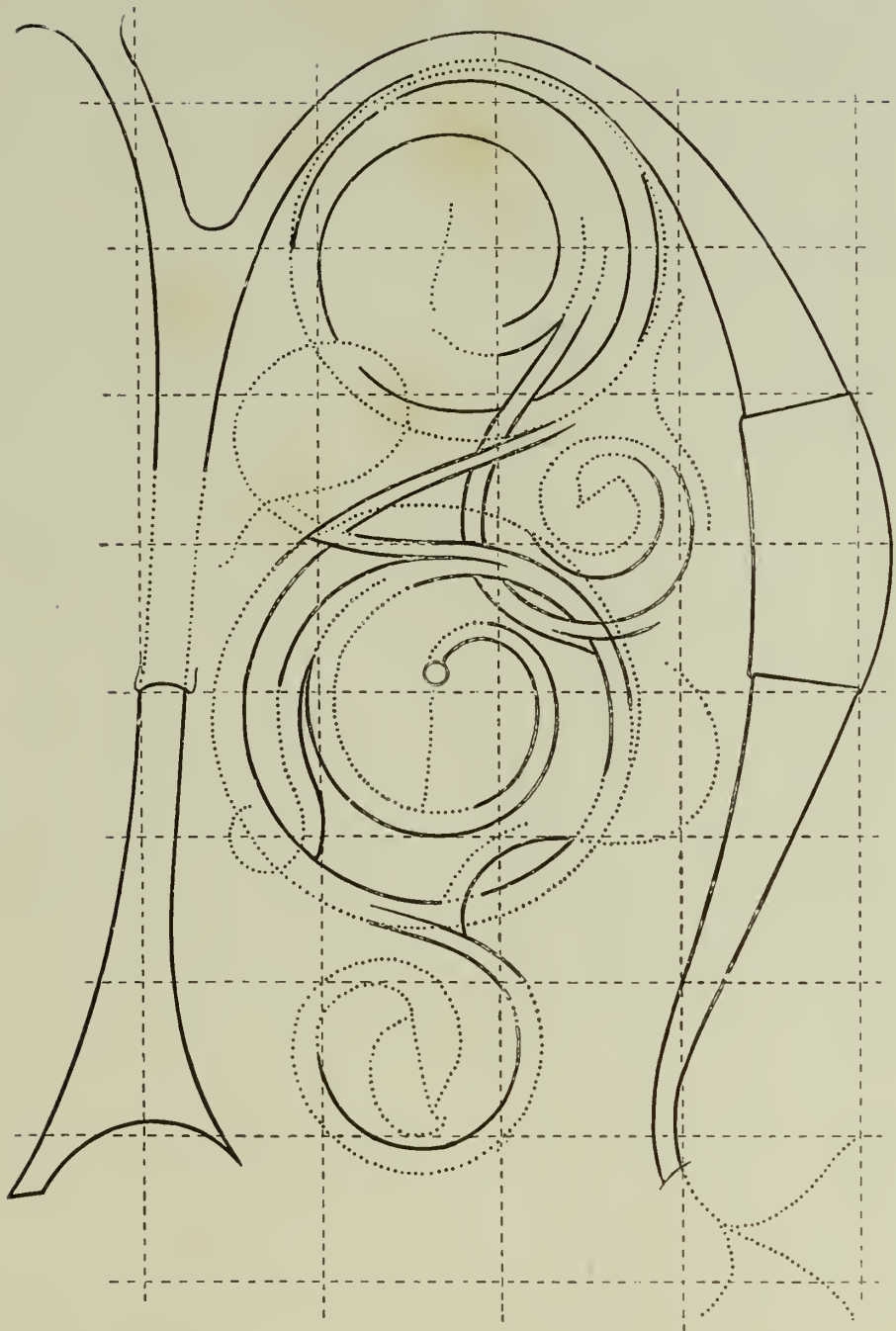


FIG. 50.—Plan for drawing Fig. 49.

freehand drawing-books give such a variety of good examples, from the simplest to the most advanced, that it is quite unnecessary to give any examples here.



FIG. 51.

The two ornamental line drawings given have been set as army examination papers, and should not be attempted until after considerable practice with easier drawings.

With each of these outline drawings of leaves from casts construction plans are given. A dotted centre vertical line is given with which to compare the true direction of the middle vein.

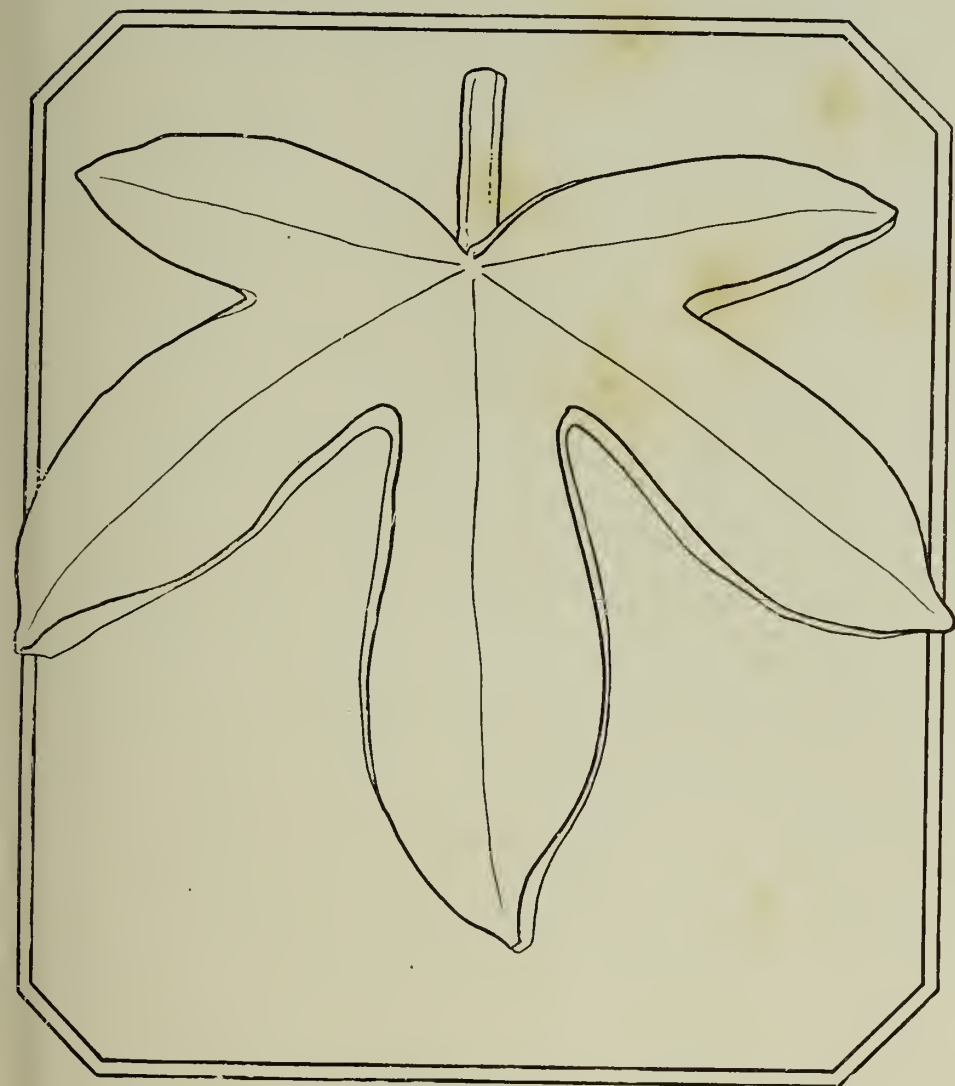
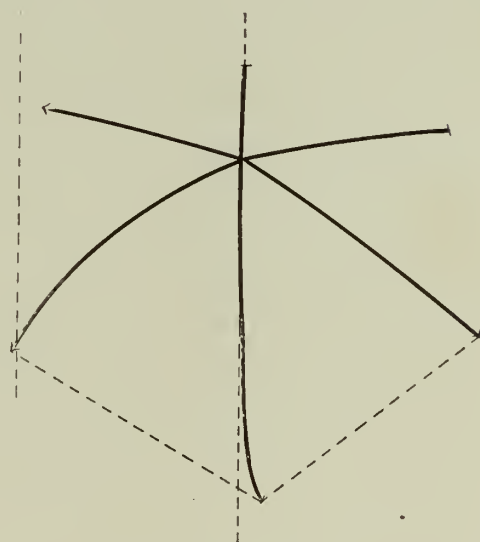
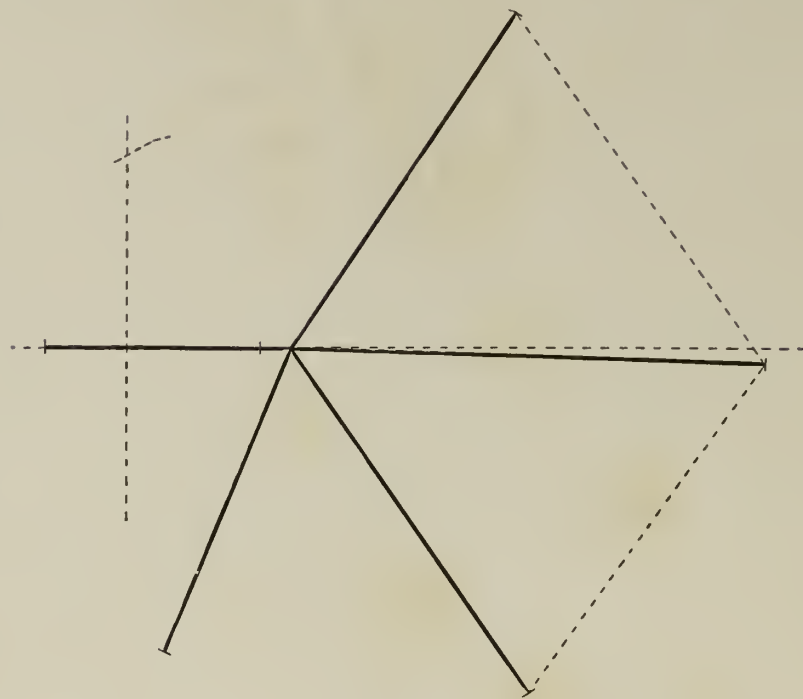


FIG. 52.



Plan for Fig. 52.

This middle vein is to be drawn first, and may be of any required size. All the other veins and the stalk are to be carefully measured and drawn *in proportion to the middle vein*; also the *distances between the extreme points of the veins* must be carefully compared with the length of the middle vein. If this is carefully and accurately done the outline will not be found very difficult to obtain. It will be found easier to draw the stand or mount for the leaves last, as it is generally more difficult to place the



Plan for Fig. 53.

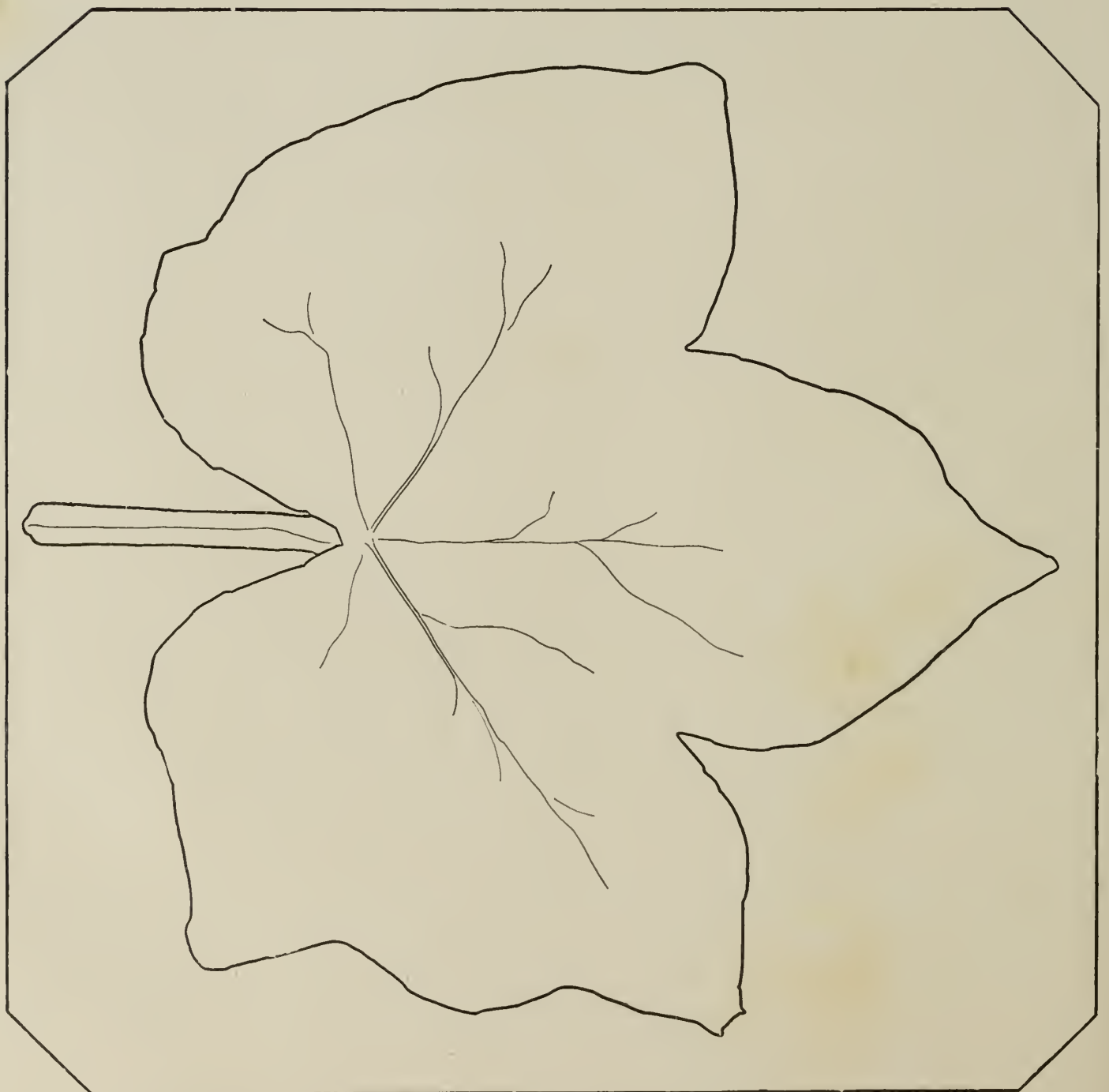


FIG. 53.

leaf accurately in the stand than to place the stand accurately round the leaf. This is so because the proportions of the leaf are more easily obtained than those of the stand.

Plaster casts of leaves and fruit may be readily obtained from Brucciani, Covent Garden, or through any art dealer, and the student is advised to make many outlines of them before attempting outlines of leaves from nature.

Hang up the casts at first in the direct line of sight, and then again on the right and left of the direct line of sight, and draw them in each position, carefully observing the difference in the proportion that takes place owing to change of position. The casts may lastly be placed lying down and drawn from in that position. This will be found harder, as there will be great foreshortening both in the leaves and stands. For such foreshortened positions, *take as before some one line or distance as a standard, and measure all in the drawing by that.*

Very good imitations of plaster casts can be made for private use, which are both practical and very useful, in the following manner. Take as good a specimen of an ivy leaf as you can get, lay it on a small smooth board or piece of mill-board, and fasten it where it touches the board with some cement, preferably one that does not melt in water; then, having prepared some whitewash mixed with strong size, give the leaf and the stand a thin coating of this whitewash with a soft brush. When this is dry give a second coating, and when this is again dry a third, and more coatings if necessary, until all the leaf and stand are entirely sealed up in a skin of whitewash, taking care to leave no edges of the leaf or under parts uncoated; the leaf will be then hermetically

sealed up in a preserving covering and will last for months without decay. Branches of laurel, dried iris pods, bulrushes, reeds, and all sorts of evergreen plants may be thus made into serviceable models to draw and shade from. If the whitewash is carefully made, and is free from grits, and is applied in thin coatings the modelling of the details of the leaves will be very little lost—not more lost than they are in a plaster cast. Picture rings or loops of wire can be fastened to the stands so as to enable them to be hung up; of course these models are very brittle and require to be kept with care.

The next examples given are the outlines of two shaded drawings in further Plates. They are not intended as freehand drawing copies, but to illustrate the *principle* of drawing similar or any leaves from nature, so as to obtain correct proportions of height, and length, and foreshortening. If a leaf lies before us on a piece of white paper, we shall see its outline almost as clearly and sharply as if it were actually an outline copy. Place an ivy leaf as given in the next illustration. Probably one extremity of

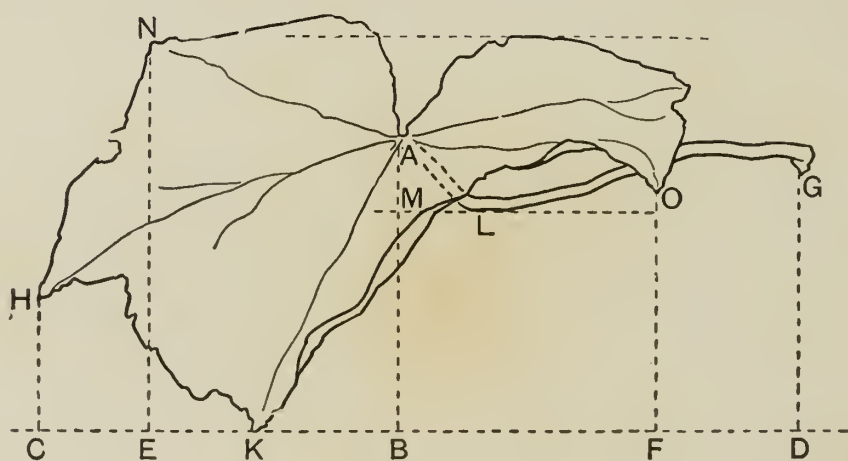


FIG. 54.

the leaf is nearer to us than the rest. At this point κ draw a horizontal ground line on the paper that the leaf rests on, and also on your own paper. Next look for the junction point of the

stalk with the large tendons or veins of the leaf; imagine a line AB from the ground line to that junction point, and draw on your paper this line as accurately as you can judge its length to be (not its real length, remember, but its foreshortened length), and at its right distance from the starting point K on the ground line. Take this line AB as your standard of measurement for the drawing. Next mark on the ground line exactly under the two outermost extremities of the leaf and stalk two points as C and D . The distance from the ground line to the extremities H and G above must be measured very carefully on a vertical pencil and accurately compared with the line AB ; also the distance C and D are each from B must be accurately measured by AB . We shall have now four points to start from—namely, the point H of the leaf, the point K of the leaf on the ground line, the stalk junction at A , and the end of the stalk at G . Draw light lines for the veins from H and K to A . Next draw the stalk from A to G —the part hidden behind the leaf from A to where it becomes visible above L must be imagined. The depth of L below A can be found by drawing a horizontal line from L to strike AB in M and getting the proportion of AM to the whole line AB . Next find the extremities N and O by lines from the points below them, E and F , on the ground line, getting carefully as before the exact positions of E and F , and the length of the lines EN and FO by comparison with AB . Now draw the veins from A to N and O , and then the outline of the leaf between its five points very lightly and simply, at first leaving out all the little irregularities and minor details, getting only the general aspect, and then when this is done, return and put in all the detail necessary.

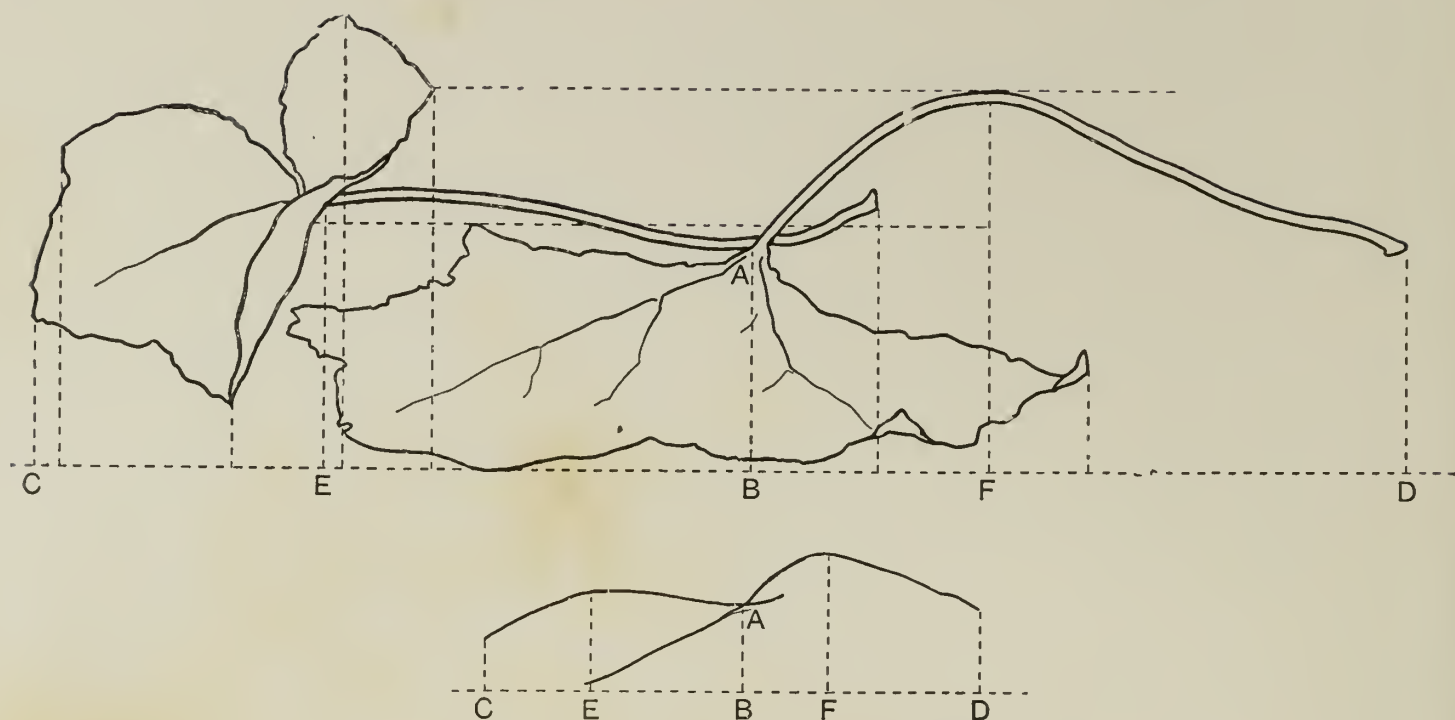


FIG. 55.

Below the larger drawing will be found a plan drawing (half the actual size) showing the two principal and leading lines that are to be drawn first, and upon which the rest of the drawing is to be built. In this, as in all other drawings, if the leading lines of structure are first accurately placed, then the rest will probably not give much trouble.

Commence with a faintly drawn ground line. On this fix a place for the point B, and from B draw BA, as nearly as possible the actual vertical measurement of the distance from the ground line at B to the junction of the stalk with the leaf. This length AB is to be the standard of measurement for the rest of the drawing.

On either side of B fix the distances BC and BD by comparison with AB; the length CD is the length of the drawing. On C, E, F, and D, draw the dotted lines in the plan, making each line and the spaces between the lines in exact proportion to AB; we shall then have five important points at the ends of the five dotted lines through which to draw the leading lines of the stalks and veins. The centre vein of the larger leaf has been extended

to meet the line from E so as to readily show its inclination. Having drawn these principal lines, obtain other leading points as shown in the larger drawing by the dotted construction lines, remembering that all distances have to be drawn in proportion to one standard line—the line marked A B.

It is to be hoped that the student, by this time, will have obtained a fair notion of how to help himself in drawing any common object that may be before him.

Common sense will show how to construct for each drawing some sort of frame-work on which to build. This frame-work must be the skeleton of the object to be drawn, and should limit accurately the general proportions of what is to come after. Do not begin to draw anything until you have studied it well, and found by this study what lines or curves compose this frame-work or skeleton of the model. Strip off, in your mind's eye, all the detail from the object, and get at the main structure and proportions first. Get these accurately, and the rest will give comparatively little trouble, only you must think it well out before you make a stroke on your paper. It is not time wasted; you will save time in the long run by doing this, and surely it is the most rational thing to do. Every thing has some simple form or structure at the bottom of all its detail, and this must be sought for first.

All anybody can do is to *try*.—W. HUNT.

You are not to draw *reality* but *the appearance of reality*.—W. HUNT.

You must *represent*, not *imitate*.—W. HUNT.

It is only by a process of continual correction that the learner can hope to advance.—JOHN COLLIER.

Before drawing a line make sure that you know where that line ought to go.

SHADING

On all objects that are not perfectly flat, and on which light falls, three effects may be observed, namely, *Light*, *Half Tone*, and *Shade*. By looking at the object with half-closed eyes these can be distinctly noticed, as then details are lost and the eyes see little but light and shade. Different surfaces or planes take different tints ; if a flat piece of white paper is curved or bent in the slightest degree a change of tint will be at once noticed. This is because the light does not reach the different surfaces equally.

The Light will fall on that part of an object which is nearest the principal source of light.

Half Tone, if the object is colourless, is that tint which is neither *Light* nor *Shade*. This tint is practically the colour of the object, and extends over its whole surface, excepting where the chief light falls. In coloured objects the half tone is the *general colour* of the object : for example, in a leaf the *general green colour* is to be represented in a black and white drawing of the leaf as *Half Tone*.

Shade is the opposite of *Light*, and will be found on those parts or sides of an opaque object that are turned away from the light, and therefore cannot receive direct light.

Reflected Light is that light which is often to be seen *on the shaded side* of an object, and is received from reflections cast from other objects on which light also falls.

Reflected light should be generally treated as being far less important than the real light, and must on no account be exaggerated in its value ; it should be rather kept low in tone, that is, subdued.

Shadow is the shade caused by an opaque object intercepting light on some surface other than its own, such as the surface on which

the object stands or against which it rests. In general the part of a shadow nearest the object is darker than the dark side of the object. Shadow differs from shade in that it has a shape or form derived from, and resembling in some degree, that of the opaque body causing it, such as the shadow of a man, tree, or pillar.

High Light is a concentrated point of light, such as is seen in portraits in the eye or on the nose or cheek ; also on objects that have a glazed or polished surface, such as china or metal. If a High Light is visible on the object, the right effect can only be obtained by making the ordinary light and the half tone sufficiently dark, so that the contrast between them and the High Light may be correct in value—the effect to be produced is, roughly, that which would be obtained by white chalk on grey paper. It is better to leave too much room for the Lights than too little.

From the above remarks it will be gathered that to obtain in any finished black and white drawing the relative values of *Light*, *Half Tone* and *Shade*, it will be necessary to leave no part of the drawing the pure white of the paper excepting where the *Highest Light* of all falls ; therefore a slight tint may be taken over all parts of the drawing excepting those few parts where pure light falls. This tint called *Half Tone* must be sufficiently dark to give the right value to the *Lights*. Over this *Half Tone* the *Shade* is to be placed in its right place or places with careful attention to its various strengths and its blending with the Half Tone. *There is a great deal of drawing to be found in the forms of shade tints*, these forms expressing much valuable modelling on the object. *Much attention* should therefore be given to the shapes and forms of the shade tints and also to the forms of cast shadows. Shading should not be attempted until considerable facility has been obtained in outline drawing, and the powers of observation well developed, otherwise we shall not

appreciate the true forms of the lights and shades, and these will become meaningless patches. It must not be imagined that drawing is only to be found in the outlines of an object, *every patch of light and shade has its own distinct shape which must be rendered truly.*

A mere outline of the edges of an object will never give by itself a true representation of the object ; the outline needs the addition of the masses of light and shade. Mr. Ruskin tell us that “a good artist habitually sees masses, not edges,” and that even with no outline, “if you can put on patches of colour and shade of exactly the same size, shape, and gradations as those on the object and its ground, you will produce the appearance of the object and its ground.” This is practically what a photograph does for us and what we must aim at ourselves. The chief necessity for an outline in a drawing that is to be shaded is that we may not lose our way in putting on the shades and leaving the lights. The outline is a necessary guide to eye and hand.

Mr. Ruskin again tells us that, “the power of shading depends mainly on *lightness of hand* and *keenness of sight*,” and bids us “obtain first a perfectly patient, and to the utmost of the pupil’s power, a delicate method of work, such as may ensure his seeing truly.” It is obvious to all that the first steps in any learning should be patient and careful ones, and in learning to shade, as in learning to draw outlines, it is necessary to begin at the bottom of the ladder. So at first and for some time the best practice for the hand will consist in laying flat tints with a pencil or pen and ink or charcoal. The pen is strongly recommended by Mr. Ruskin for the use of beginners, as being an instrument with a hard and fine point, its firmness giving support to the hand, and its delicate point allowing attention to be properly directed to all the most minute parts of the drawing. No drawing need be weak because made with a finely pointed pen or

pencil. Drawing with the pen is especially to be recommended now that pen and ink work is so necessary for the purposes of illustration.

But whatever be the instrument employed, chalk, pencil, pen, brush, or stump, more depends on the hand that holds it than on the instrument itself.

Mr. Ruskin recommends that we should draw a square (any shaped figure will do), and try to fill it in with crossed lines so evenly and thoroughly that it shall look like a flat tint of colour upon

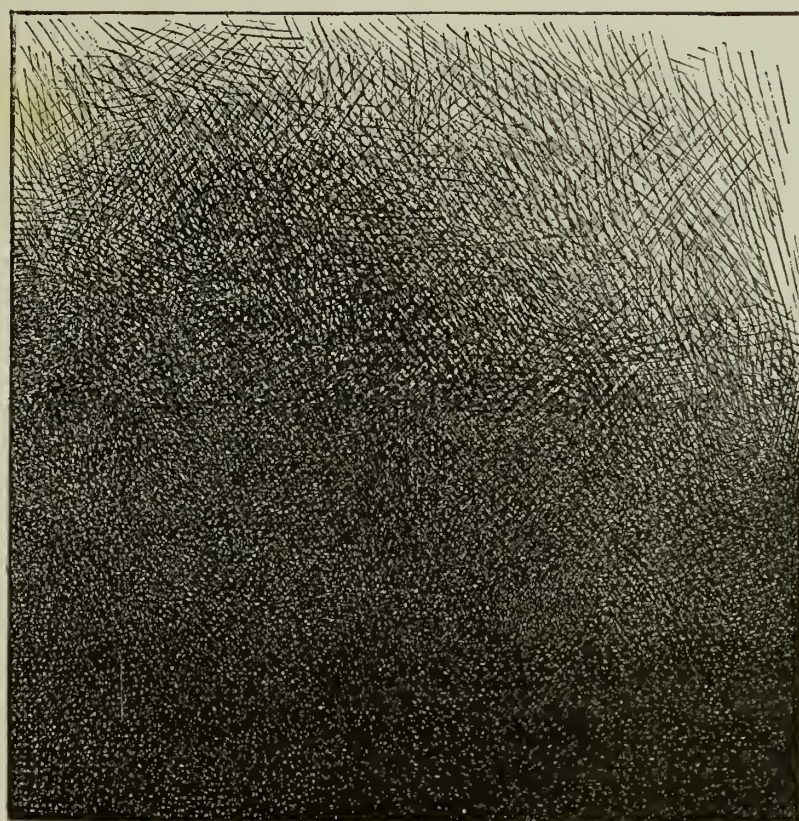


FIG. 56.

the white paper. The accompanying figure will show the sort of shading commonly called “cross hatching.” The lines should be made rather rapidly, as lines so drawn are lighter at their ends, and therefore more easily joined than other lines. They should be fairly straight, and may be drawn in every direction, and need not at first be very closely or neatly drawn. These lines (when dry, if ink is used) are to be crossed by other sets of lines in all directions, and of various lengths, and any light spaces or spots ultimately left can be

filled in with short strokes or dots. As an exercise for the hand such work is useful, but for ordinary purposes of shading an equally satisfactory tint can be obtained by drawing only straightish lines in one direction instead of many sets of crossing lines. Mr. Pennell, who objects to cross-hatching work, says the result will be more artistic, and certainly time will be saved in so making the drawing, but the straightish lines must be drawn with great care, and no trouble must be spared to get them.

Examples of straightish line work will be found among the studies of flowers, &c., in pen and ink.

If charcoal or powdered chalk be used, it should be applied to the paper by small paper stumps, or the finger, and be well rubbed in. Bread kneaded into pellets between the finger and the thumb will assist in obtaining the perfect evenness of tint necessary. This bread pellet should be brought to a fine point, and by delicately touching the too dark parts with it they will be lightened. Those parts that are too light may be retouched carefully with the stump. The tinting in all cases should be brought sharply and evenly up to the outline of the space to be shaded. When the shading is as flat and even as you can make it when looked at from the distance at which you have been working, place your drawing at some considerable distance further away from you, and you will most probably find there is still more that you can do to render the tint perfectly flat.

Charcoal drawings may be firmly fixed with any liquid fixative and ordinary scent-spray disperser. Rouget's *Fixatif* is to be recommended; a little practice will soon show how to send the *fixatif* in a gentle spray over the drawing.

When this square can be filled in fairly successfully the student may attempt to gradate his work from pure black to pure white, as

in Fig. 57, but not necessarily in lines; it is generally easier to begin shading anywhere except at the edge or outline of the enclosed space, and to obtain by degrees the necessary sharpness of the edges. If pencil is used, bread pellets will assist in the gradating, but the freshness and charm of pencil shading is greatly destroyed if corrections have to be made. For pen and ink work a sharp pen-knife will remove or lighten too dark parts. When such gradations can be successfully made, then the shading of some dull white object may be attempted in a similar manner of work. A painted wooden cylinder will do well, and after this a plaster cast of an apple or pear may be attempted. Here will appear fresh difficulties to be mastered, for the masses of light and shade and values of tone, have to be well considered and carefully treated.

When a drawing is to be shaded, and *a background put in*, we no longer need a severe outline all round the object, the outline should be kept very faint *as a line*, for the background and the shades will

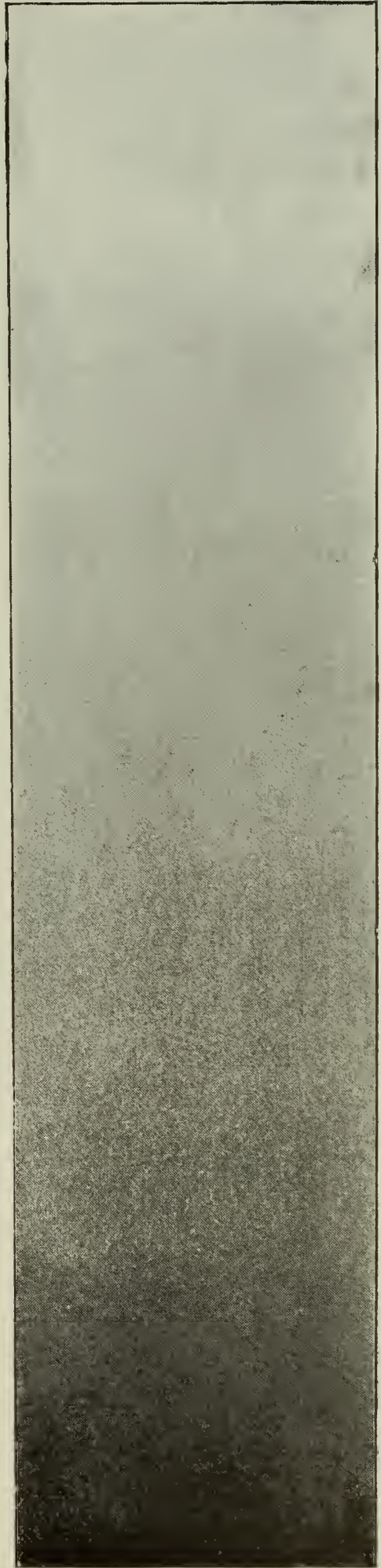


FIG. 57.

by themselves give us the object in all necessary relief. It is well in all shaded drawings to put in a background so as to do away with the necessity of having a line boundary to the object, and also to enable us to get correct values of light and shade and tone.

Again, it is well to notice that seldom in Nature (where we always see objects with backgrounds) do the background and shades force attention as it were to the complete form of the object: generally *somewhere the distinction between the object and its background is blurred or lost slightly*, so that the eye can pass gradually from the object into its surroundings. *This may be noticed in the reproductions given of photographs from casts of leaves, &c., and drawing of an apple.*

The cast of the apple has been placed on and in front of a piece of white paper, and presents a good study of the relative value of tones. Such casts as are shown here are very inexpensive, and can be obtained from Messrs. Brucciani, Russell Street, Covent Garden, who are the makers. Supposing that we have such a cast of an apple as that in the illustration, and wish to make a study of tones. Place it on a piece of white paper bent in halves, so that the cast may stand on one half and the other half may rise as a background behind. Rub a tint of charcoal all over your paper as in making a flat tint, and then proceed to darken the paper round the apple (and so get its shape) with a deeper tint of charcoal applied with a small stump. Notice that the tone of the paper is darker than that of the apple on its light side, and yet appears lighter than the shadow side of the apple. Yet in fact the tone of the paper is almost the same all over the flat lying down surface; it is only made to appear lighter on one side by the contrast of the deep shade on the cast and the shadow of the apple. Get

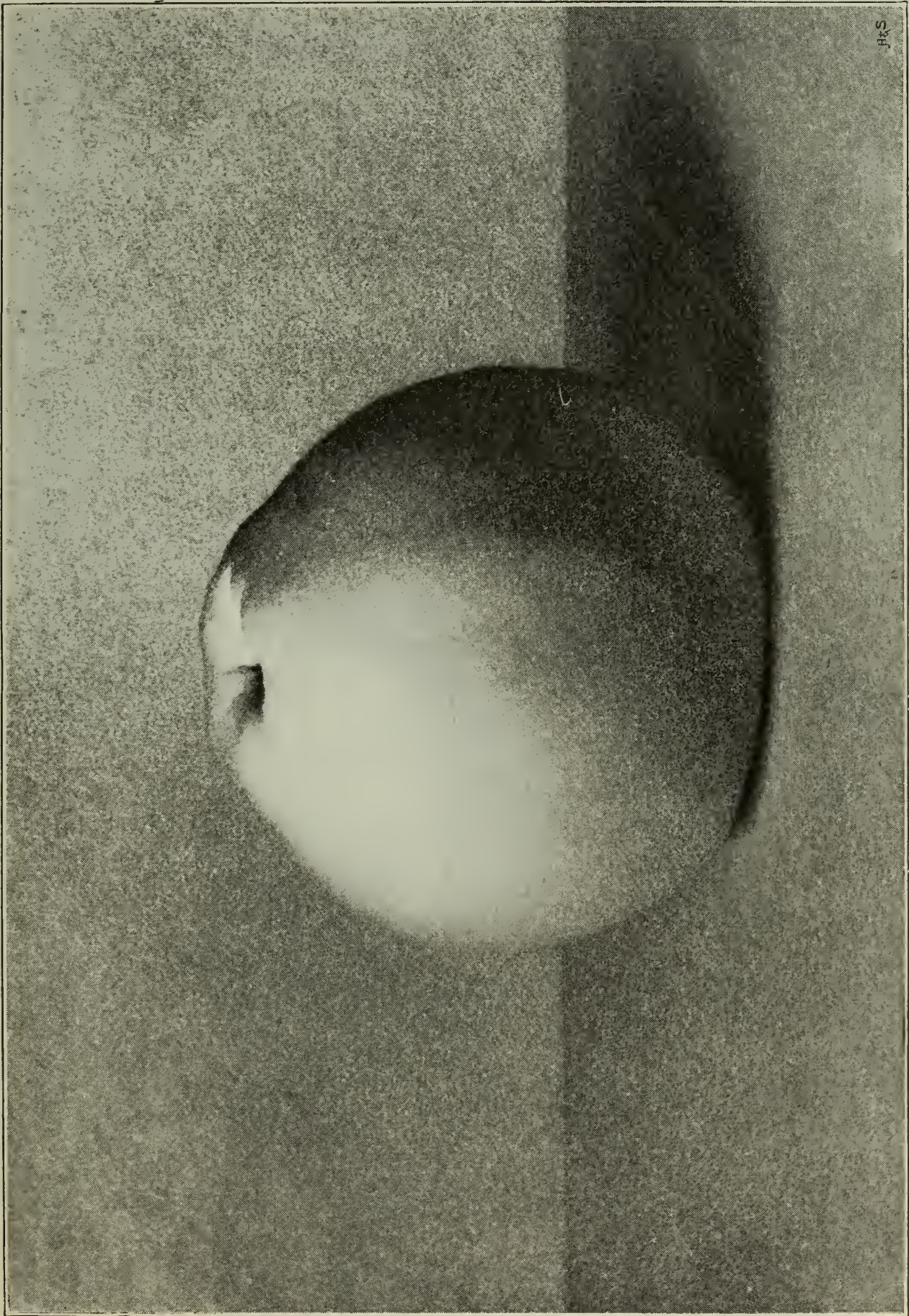


FIG. 58.

carefully also the difference in the tones of the lying down and the upright surfaces of the paper ; pick out the high light with a pellet of bread till it is as white as it should be in contrast to the half tone tint we applied first, and then put in the shades, gradating them carefully, and paying great attention to their form where they lie upon the half tone tint. Remember that the apple has to be rounded towards the shadow beneath its under surface. Next place the cast shadows ; notice that the edges of the shadows are not so sharp and defined as the outlines of the cast, and the further edge of the shadow is more blurred than its nearer edges. The modelling of the hollow at the apple's top must be very carefully worked ; it will be seen to consist of several small mounds, and each has its light and shade to be attended to. In some of the dips between these mounds we may see the outline of the cast blurring or fading into the background tone ; and again this same slight losing of the outline may be noticed in some degree in the outline of the apple on its light side. Notice also that the light on the apple does not go quite to the outline, but melts softly into a grey before the outline is reached. On the paper below the apple on its light side may be noticed a faint reflected light, this must on no account be exaggerated.

Now all the tones that we have noticed on the apple, and the paper, the lights (both direct and reflected) and the shadows have all their relative values one to the other, and depend upon each other, and require patient study to see, and patient work to reproduce. The illustration of the two eggs is given also to show the relative values of all the tones. We may think the paper is white and the eggs are white, but place them as in the illustration and it will soon be seen how dark we have to make the paper to make the eggs appear as light as they should be ; and again how

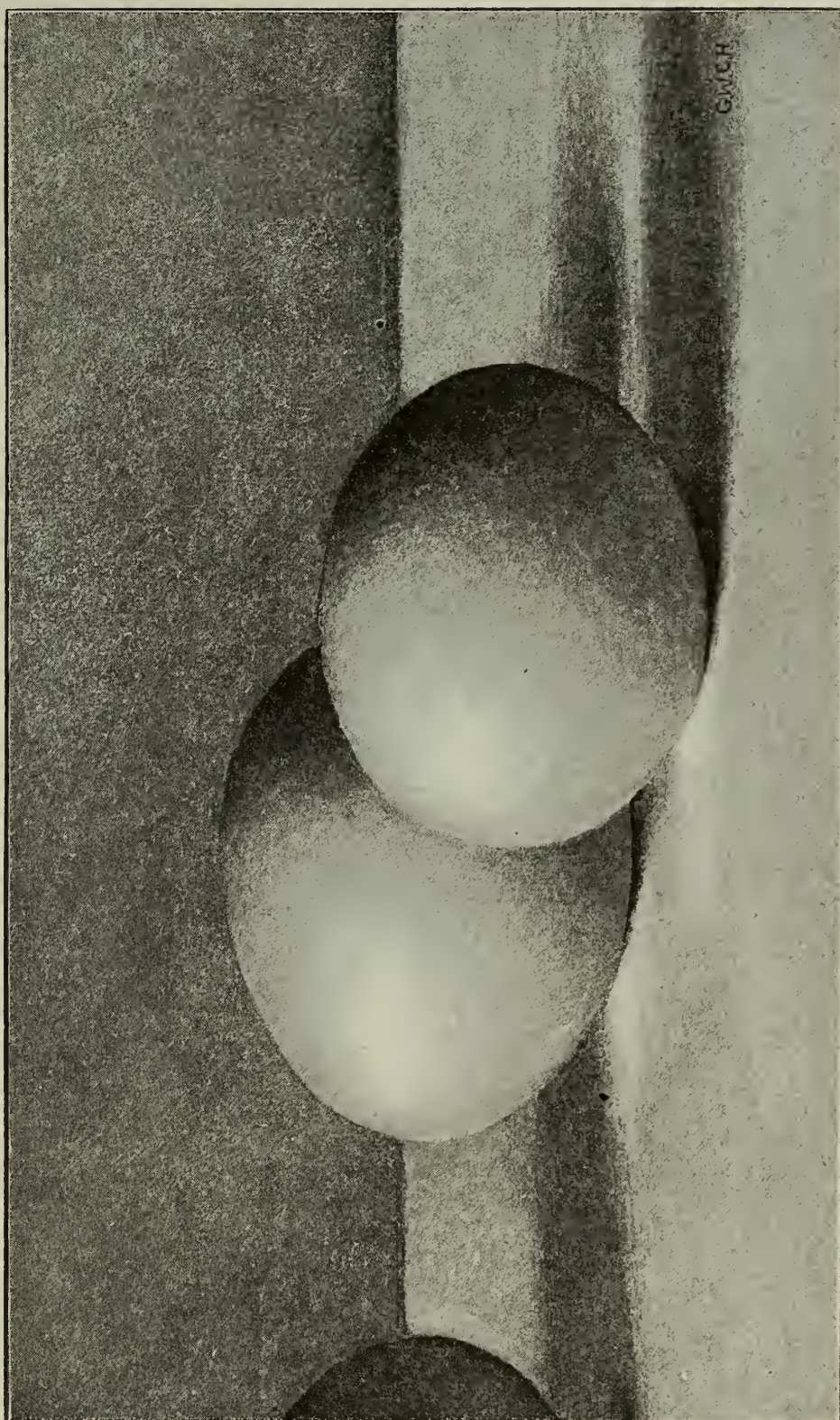


FIG. 59.

dark we have to make the eggs to give the lights that fall upon them their correct value. The lights on the eggs, in fact, are the only parts that we can leave white on our paper, if we wish to get the correct values of the eggs and their background and surroundings. We should make many such studies of values. It is a good plan also to group together several small objects, not only white, and try and get with charcoal or chalk their relative values one with another. A black inkbottle, a dark vase, a book, a reel of white cotton, grouped together, would give a good deal of work and thought to get their relative values of tone correct. No details should be attempted in these studies, only broad effects of values.

With the exception of these broad tone studies, we should not attempt the shading of coloured objects until we have thoroughly mastered the difficulty of seeing light and shade correctly and delicately on white objects.

A beginner finds it very hard to separate colour from light and shade, and is apt to confuse all together.

Careful gradation in tint and shade cannot be too strongly insisted upon.

In nature all tints and shades *graduate delicately*; they do not end abruptly or severely, that is, the edges of the lights blend delicately into the half-tones; and in the same way the shade-tints do not lie harshly and with sharp edges upon the half-tones, but merge their edges softly upon the half-tones, *yet without losing their true form*.

The breadth and simplicity of effect in a drawing, which is so desirable, is gained by the omission of unimportant details, *and by the subduing of all detail that would disturb the necessary gradation of shade-tints*.

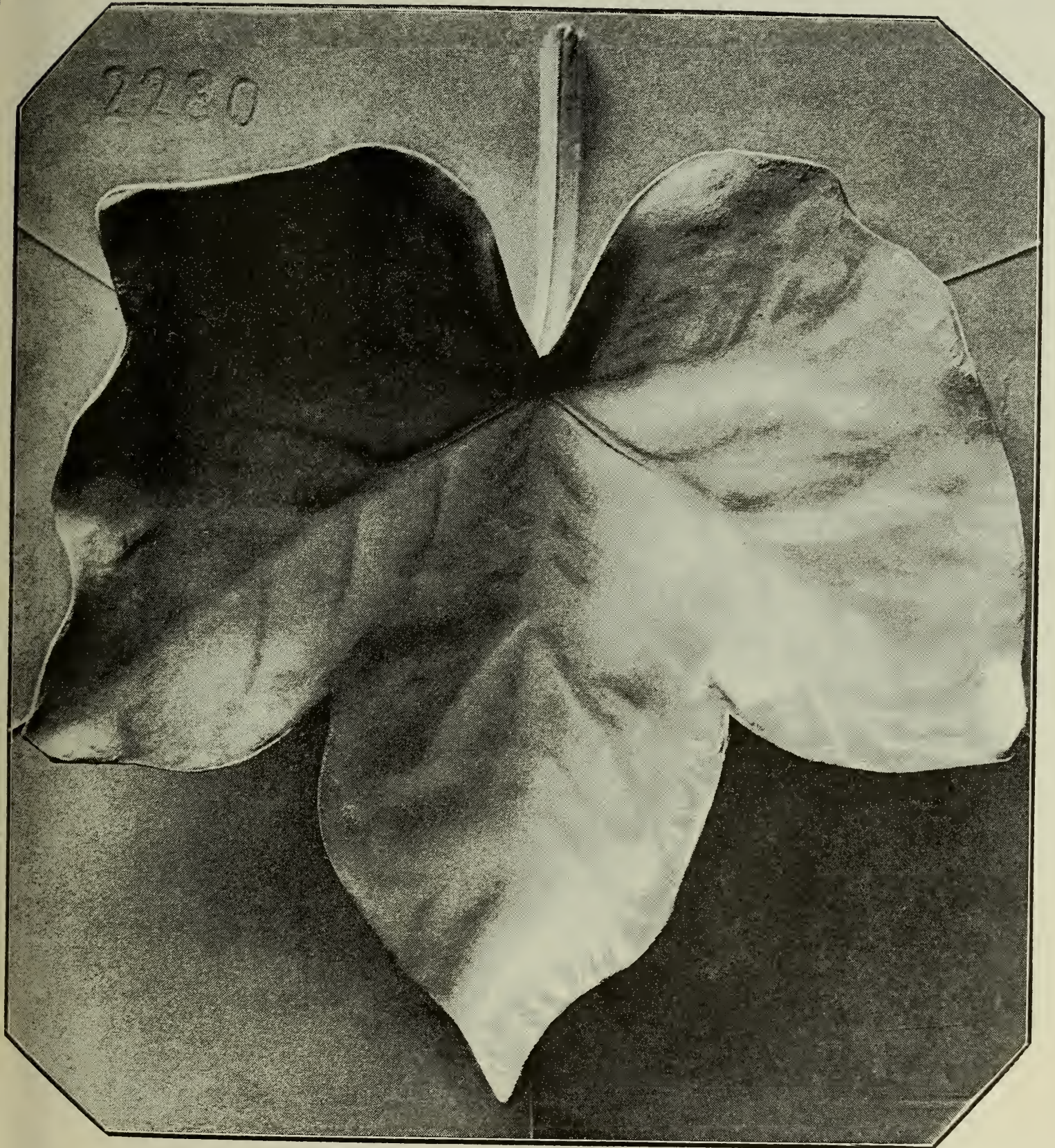


FIG. 60.

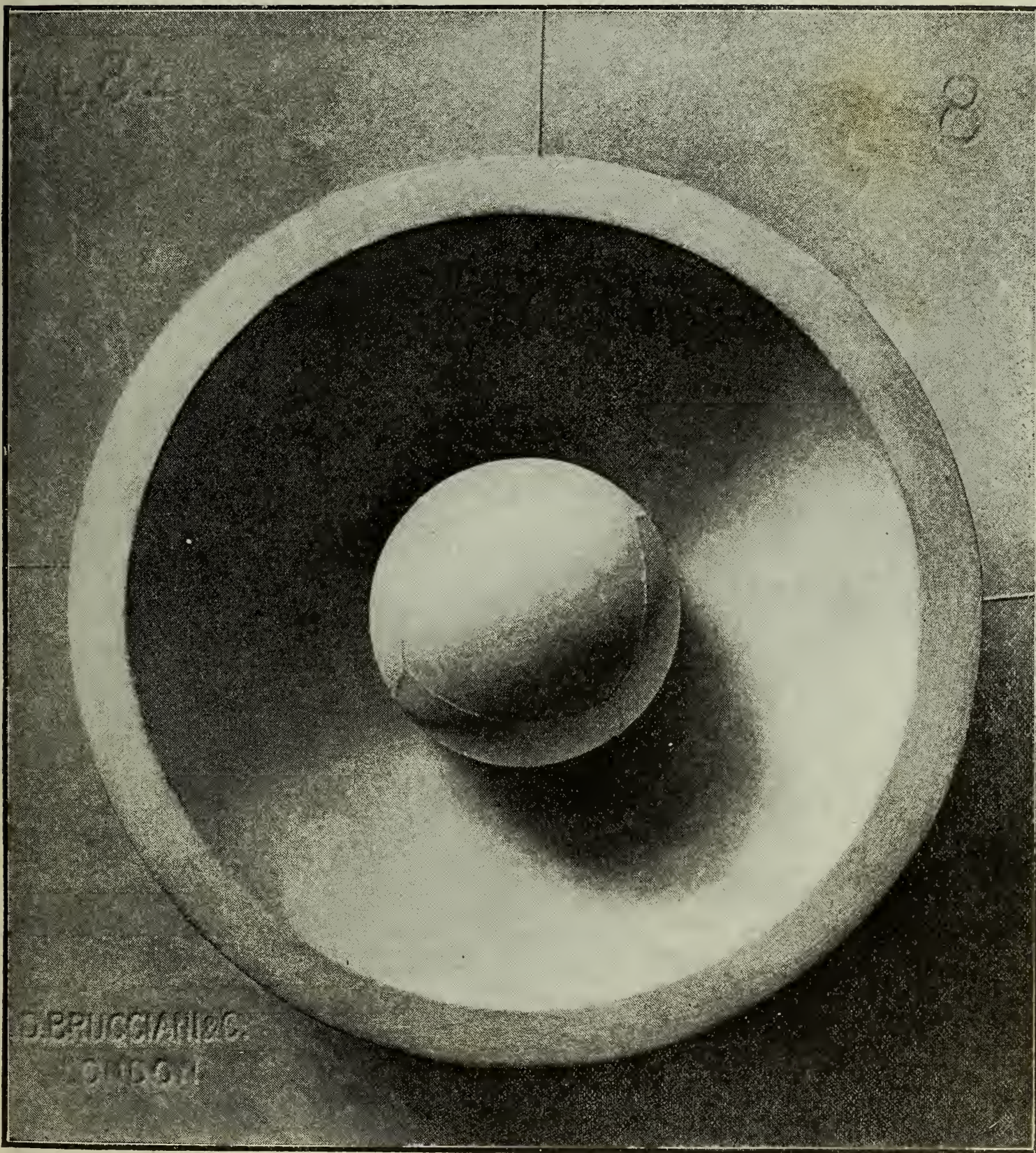


FIG. 61.

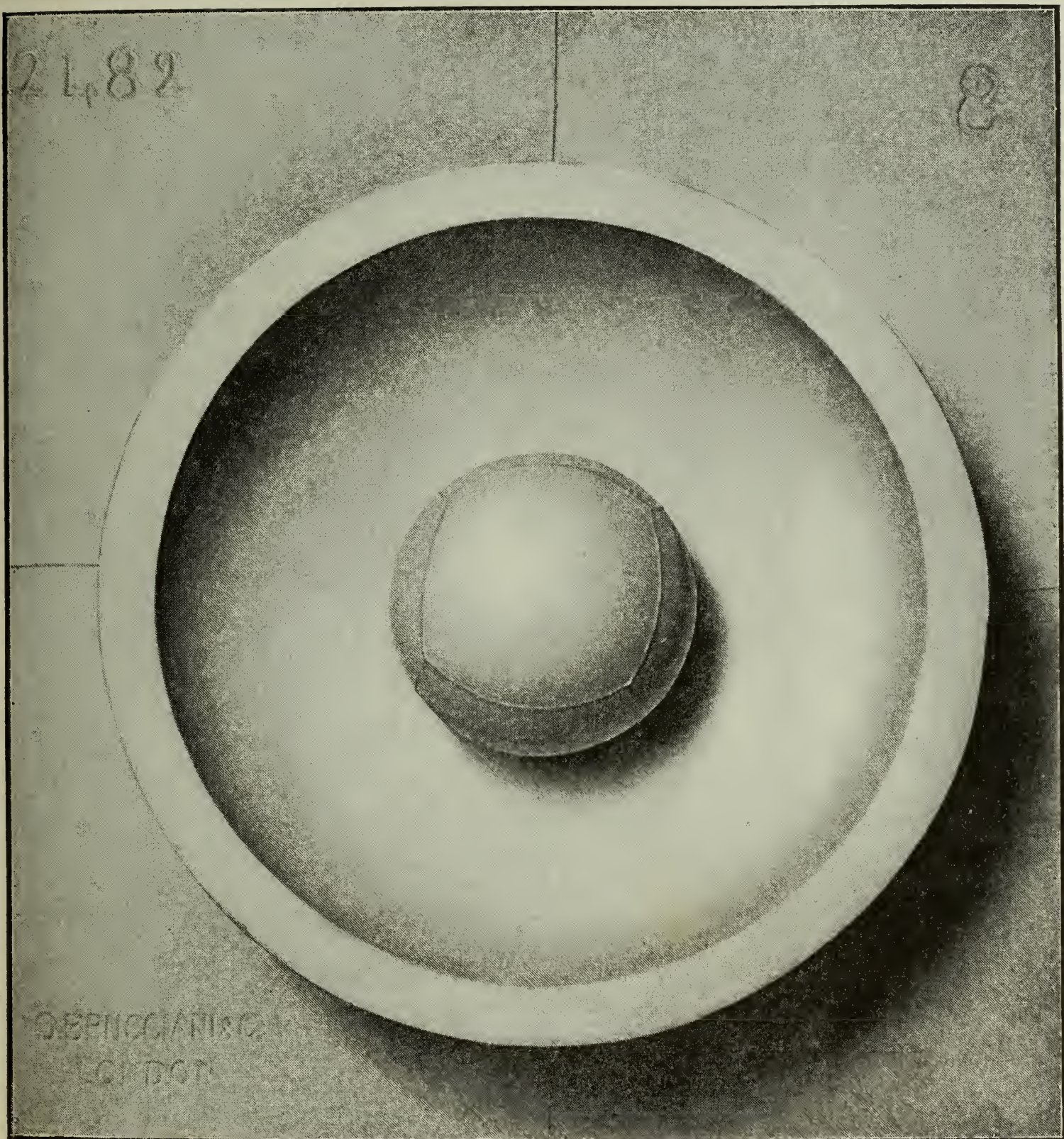


FIG. 62.

The light and shade of the object *as a whole* should be the first consideration.

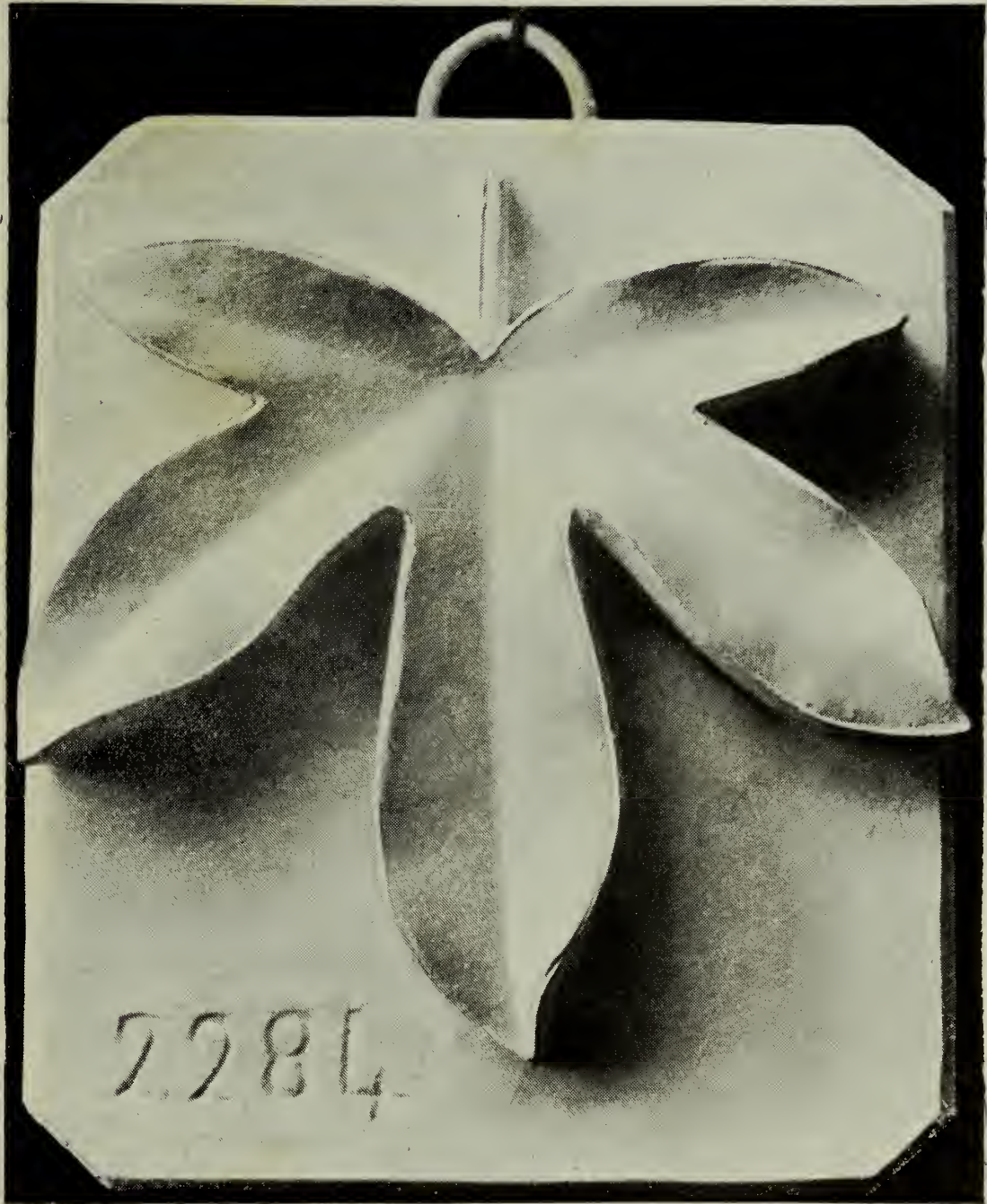


FIG. 63.

In the direct photo-process employed for the reproduction of these photos of casts, a fine wire gauze is employed to obtain minute lines for printing purposes ; so an absolutely pure white cannot be given unless these minute lines are cut away on the block. But though there is no absolutely pure white light on these photos, yet there are present three distinct grades of light and shade, and if the illustrations are looked at from some little distance the effect of a white light is easily realized.

The “finish” that we put into a drawing must entirely depend upon the time at our disposal ; our aim must naturally be to obtain as true a representation of the object as is possible within the time available. If that time is short, our record of the object cannot be detailed, we must make a sketch and put in it what we can. Naturally we ought to seize the most important points first ; and also the direction of our lines should express something of the direction of the surface of the object, and its texture and form. Lines should never oppose the general character of the object. For example, horizontal lines will better express the character of a shadow lying on a horizontal surface than vertical lines could.

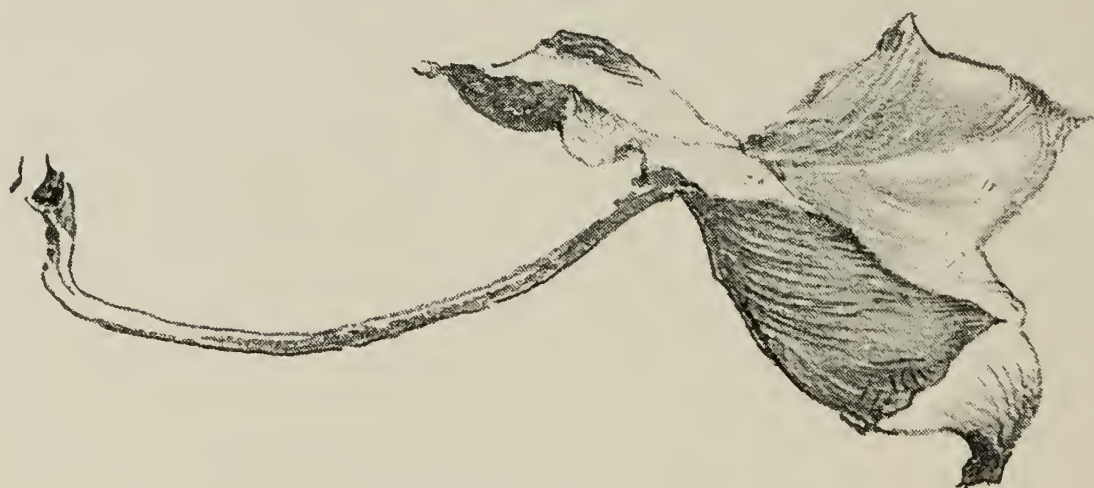


FIG. 64.—Pencil sketch by J. R. Weguelin.

A sketch differs essentially from a finished drawing or study from nature ; a “study” implies labour and a desire to record as much as is necessary to obtain a finished result, and aims at leaving little for the imagination, but desires to satisfy and occupy the eye fully. A sketch should, on the other hand, not aim at being more than the record of a single impression received by the mind. It differs entirely in its purpose from a finished drawing or study, and should suggest more than accurately define ; it should be more full of hints than facts. Some facts may be expressed fully, but the sketch should by its manner of execution hint at much more than it explains. Every

line in a good sketch should be full of meaning and life. Evidence of labour would at once destroy all spirit in a sketch, and a sketch should have essentially life in it, and express to those who see it something of the feeling of the artist when making it. William Hunt in his *Talks about Art* says: "In your sketches *keep the first vivid impression!* add no details that shall weaken it! look first for the big things!

"1st, Proportions;

"2nd, Values, or masses of light and shade;

"3rd, Details that will not spoil the beginnings."

No words could define better what we must first seek for in every drawing; whether it be finished or only a sketch, the principle is the same for all work.

Different textures also demand a varying style of work with which to express them. Moss, wool, or foliage require to be expressed by lines that will to a certain extent explain that they are not smooth metal or stone; this will probably naturally suggest itself to the student.

A very good effect of modelling can be obtained in a sketch by laying first a tint of pale charcoal or powdered chalk or water-colour all over the drawing to express half-tone; then take out the lights and put in the shades and shadows with pen and ink, or chalk, or pencil over the half-tone. A pen-and-ink drawing made over a tint of charcoal has very much the appearance of an etching.

As the handwriting of few people is exactly similar, so too the mode of expression in drawings varies with each artist; but if the result is good few people will cavil at the mode of obtaining that result. But a slovenly style in drawing, as in everything else, should be avoided, and a good style can only be the result of patient thought and practice, and observing carefully how clever men have

obtained their best results. Because a great master can express himself with a few bold strokes, we should not forget that that very freedom and boldness which we so much admire have been most probably obtained by years of careful study and observation and hand and eye training. No boldness of style or brilliancy of colouring can amend for want of accuracy and care and the close study of nature. Dash should never by the beginner be substituted for labour, nor boldness for accuracy of detail. So we must never mistake careless, slovenly work for boldness or artistic freedom. Above all, draw things *as you see them*, and not as you know or fancy them to be. Persevering work will, with constant observation, teach you *how to see* and *what you really do see*. With industry and perseverance, Sir Joshua Reynolds considered that every degree of ability might hope for success.

As students we must not allow our imagination any play in our studies. We must be faithful reproducers of what we see, and as students we must pay very great attention to our execution or manner of making a drawing.

Execution or the actual handwork in making a drawing is greatly a matter of practice ; with some of course it seems to be an inborn gift, but all may obtain some skill in the mere handcraft portion of drawing. We may be gifted with great accuracy of sight, we may know how to observe truly and possess all the imagination necessary to conceive a fine picture, but unless we can tell our story well by means of good handcraft we shall fail to produce a satisfactory result. The highest aims and loftiest imagination are tied hand and foot unless we can express ourselves well, unless we can represent in a good manner what we see or feel. And the better we can draw or paint, so much the more successful will be our picture or drawing, and if our handcraft is

pleasing in its style or manner the more attractive still will our drawing appear. Therefore it is necessary to try and get a good style of execution, and especially to try and avoid getting into a bad style at the outset. There are many painters who consider the handcraft in a picture to be the chief and only thing to be considered. These are generally men who lack much imagination and inventive power, and who are practically only splendid copyists of what they see. Although personally we may consider the aim of an artist to be something more than to be a brilliant executant, yet the highest aim of us all should be to possess powers of imagination combined with powers of execution. The possessor of these combined powers should be a most successful artist, and we shall find that the largest number of great artists have been men who have possessed both these powers combined.

So as students let us strive and practise hard to get into a good style of work both in drawing and painting: and in our elementary stage of learning the first steps in drawing take care to avoid all slovenly work, and to study carefully the styles of really good men. Don't think because you are making only a study or sketch you may do it anyhow. Strive in all you do to do it as well as ever you can. This doesn't mean that we should only think of making a *pretty* drawing by any means, or that in thinking of the execution we should let it monopolise our thoughts, and sacrifice for it truth and accuracy. Good execution will never cover bad modelling or inaccurate drawing; better than fall into this snare, let the good execution alone and get the accuracy and truth of what we see, and trust to time and practice to give us the better execution in due course. *Avoid mere prettiness* of work: that is not really good execution. Good hand work should combine firmness, strength, beauty and delicacy *as they*

are needed. Where you see this, you will feel that the work and result is good ; when you see this in a drawing study that drawing well and gain all you can from it.

We should never be carried away by the desire to make our drawings picturesque. We should not, as Mr. Hamerton tells us, “exaggerate ruggedness or invent what is not in nature,” if we do, we do so at the cost of truth. The true character of what we draw should be faithfully represented ; therefore, the same mode of treatment cannot be employed for the representation of all objects, alike picturesque or unpicturesque, and we must vary our execution according to the character of what we desire to represent.

“If you dislike the state your drawing is in, do not lose patience with it, nor dash at it, nor alter its plan, nor rub it desperately out, at the place you think wrong ; but look if there are no shadows you can gradate more perfectly ; no little gaps and rents you can fill ; no forms you can more delicately define : and do not *rush* at any of the errors or incompletions thus discerned, but efface or supply slowly, and you will soon find your drawing take another look.”—
RUSKIN.

“The practical difficulty of shading lies in the necessity for making the degree of projection in any object or part of an object not what it is in nature, taken by itself, but what it ought to be relatively to other projecting masses or details in the same drawing, so as to be important only in the right degree, or subordinate, and always to form part of a consistent whole.”—P. G. HAMERTON.

COPYING ALBERT DÜRER'S ENGRAVINGS

As a rule copying from engravings is not to be recommended, for if copying work is desired, it is better to copy original pen-and-ink drawings, or, if these cannot be obtained, reproductions of good pen work.

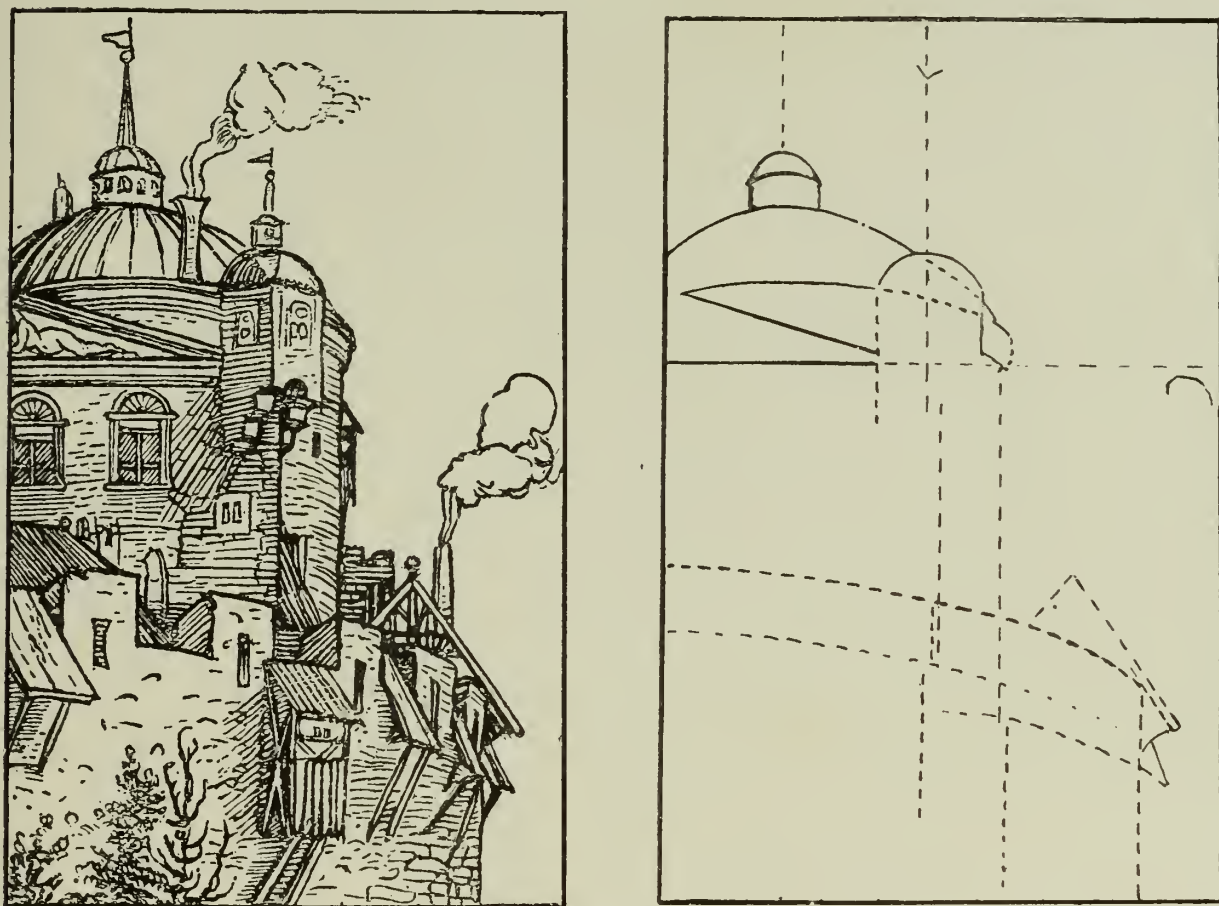


FIG. 65.

The freehand drawing examinations for Sandhurst, Woolwich, and Indian Woods and Forests include copying in pen and ink small portions from Albert Dürer's wood engravings. Presumably these are given as tests of accuracy, and a faithful copy of even a small portion of such engravings ensures the copyist having both patience and precision. These two qualities are well worth cultivating. So for this reason, as well as that they are required for the examinations mentioned, several such portions of Dürer's work

are here given. These small examples have all been examination papers, and are supposed to represent about one hour's work; of the larger ones one half is considered enough for that time, but it will require much practice to finish *well* even the smaller portions in one hour.

In the plans for starting the smaller Dürer drawings, the dotted lines are supposed to represent faint pencil construction lines.

A good copy must necessarily be as closely as possible a facsimile of the original. "You will find," says Ruskin, "on copying

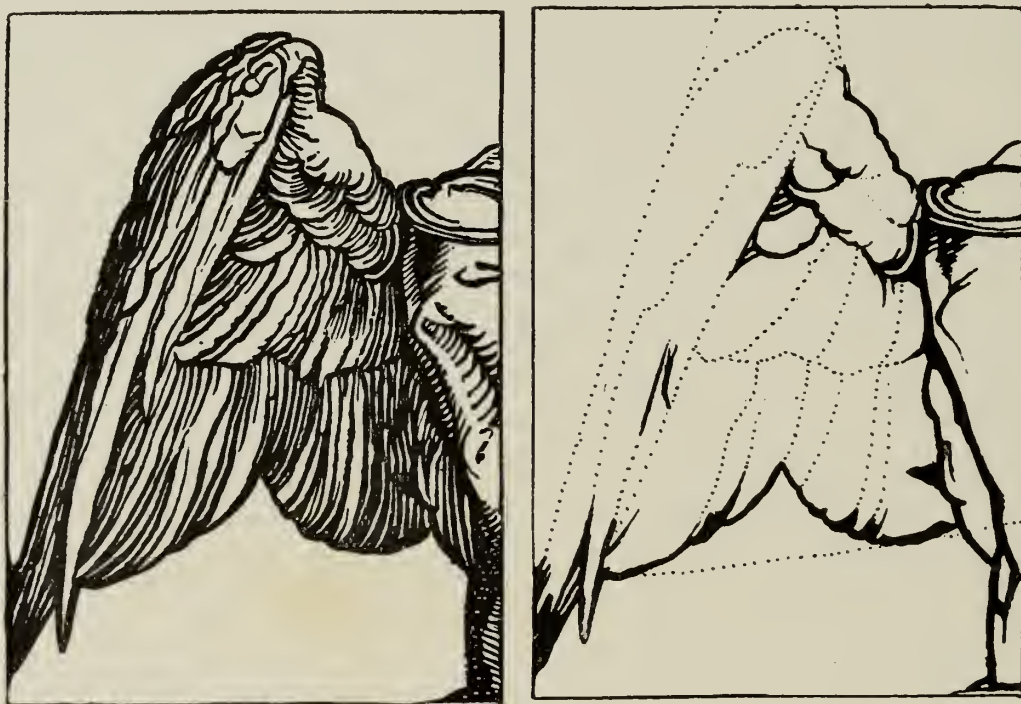


FIG. 66.

Dürer that every one of his lines are firm, deliberate, and accurately descriptive as far as it goes." Descriptive both of shade and direction of surface, and each line having its own position and work to accomplish, cannot be slurred over in the copy or altered in form or thickness, without destroying the impression that Dürer wished to convey. Such faithful work as will be necessary to produce a faithful copy of his drawings requires some practice: and the copyist is advised not to attempt too much at first. A square half-inch or inch of the drawing, rendered line for line, each line with its own thickness

and form accurately given, will enable him to understand the simplicity and directness of Dürer's work. In the portion chosen, there will almost certainly be found one or more principal lines which can be



FIG. 67.

readily observed. Draw these, *and these only*, lightly with the pencil so as to obtain some guide to start from, and then take a pen (not too fine) and redraw these principal lines, looking carefully for every angle and variation in form or thickness.

Ink lines worked over pencil lines have, as a rule, no freedom ; hence the advice not to use the pencil more than can be helped in making a pen-and-ink drawing. If the proportions of the leading lines and forms in the original drawing are accurately reproduced in the copy, the smaller and less prominent details will all fall easily into



FIG. 68.

their proper places. Experience will show the copyist that it is when the leading lines are not *exactly* in their right places that the smaller lines get confused. In copying pen-and-ink drawings, or engravings or any flat copies, the same rule then is to be observed as for other drawings, viz., commence with the leading and principal lines, and

obtain their right proportion and position first. When this is accurately done, then, and *only then*, proceed to the next most important lines, and so by degrees finishing up with the smaller strokes. Never

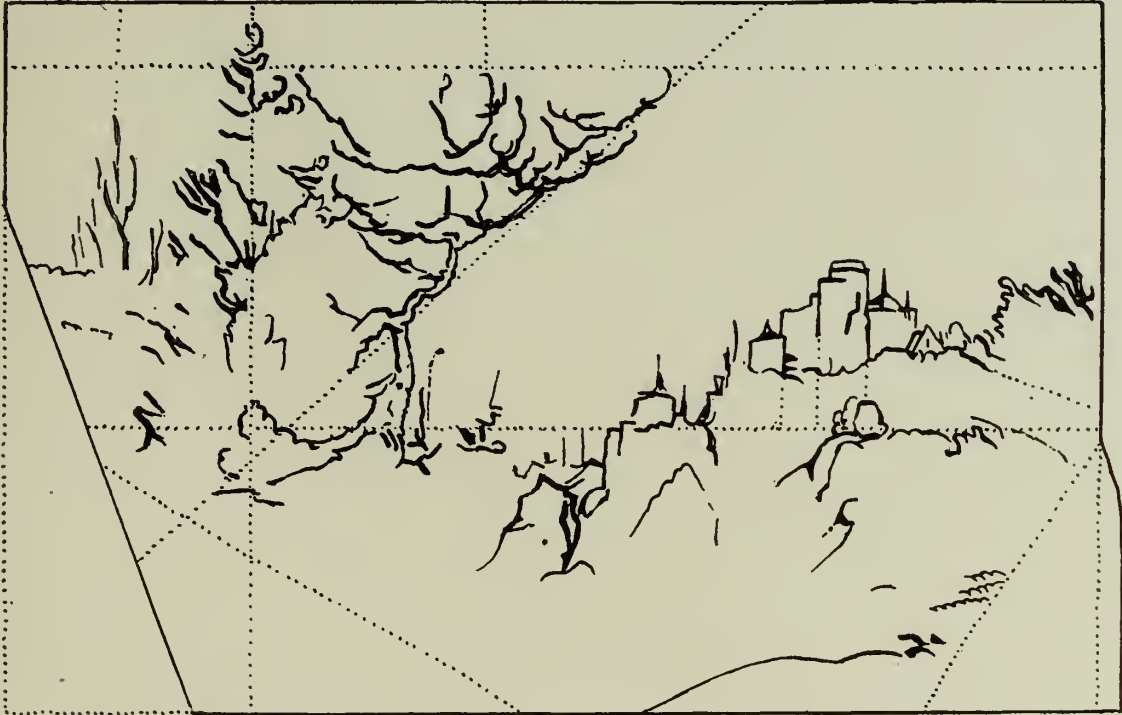


FIG. 69.

commence to draw a line until you are perfectly certain of its right length, shape, and destination. If time does not permit, as in an examination, of an exact copy of the whole drawing being made, after-

intelligently marking in the chief proportions, &c., as advised above choose some one part and devote all your capabilities to making a *facsimile* copy of that portion : this will give a sufficiently fair idea of your powers as a copyist. “A little bit perfected is worth more than many scrawls.”



FIG. 70.

Make your strokes deliberately and firmly ; Dürer's deliberate style requires a deliberate hand to copy it ; his pen strokes were never made in a hurry, and require time and thought to imitate ; quicker execution will come with practice.

It is well to remember this sentence of Blake's—

“Servile copying is the great merit of copying.”



FIG. 71.

ON DRAWING LEAVES FROM NATURE

When about to make a drawing from nature of a leaf, do not begin at once a severe outline of its form, but wait a few minutes and study the leaf well. On first looking at any object, the eye only gets a broad impression of its general shape and colour, a second look shows more detail, and further inspection shows more and more. So a drawing has to be gradually brought to perfection: at first form is to be suggested, then the general effect of light and shade, and afterwards detail added. Commence by noticing what is the general impression a first look at the leaf gives you, its shape and broad effect of light and shade; look where the highest light falls and notice its strength or value as compared with lesser lights. Try and separate the light and shade into the three divisions, *light*, *half-tone* and *shade*, remembering that the general green of the leaf is the half-tone in a black-and-white drawing; and that colour is not light and shade. Note carefully the position and prominence of the principal tendons or ribs leading to the chief extremities of the leaf. Observe the junction of the stalk with the leaf, how the ribs all branch out from that point of junction: then notice the portions of the leaf between the ribs whether the space is flat or raised into slight mounds; if the latter, notice that each mound has its own light and shade. Beginners are often apt to see too distinctly unimportant details, and by giving these undue prominence are then unable to give the right values to the really important parts. Truth is what should be sought for in a drawing, but truth does not consist in putting in every little vein you may happen to see in a leaf, because it is impossible for you to put in all those little veins without undue exaggeration; your drawing would certainly be too

crowded and become flat and uninteresting, and probably a great failure, for no drawing can hope to give all the facts a photograph would. Therefore compare faithfully all details and settle which are the important points to be seized and to be carefully expressed,



FIG. 72.—Pen-and-ink drawing of a Plane Leaf, by G. P. Jacomb-Hood.

then what are of less value and consequently to be slightly expressed, and lastly, what details are so unimportant that they may be left out altogether. If you look at the object with eyes half closed, you will find that unimportant details appear lost to your sight, and light and shade are more strongly defined, and so you will get a

fair idea of the relative values of the points to be seized by you for your drawing. The tendons or veins of a leaf are not severe straight lines ; you will generally find bends or angles in their forms.



FIG. 73.

Probably also you will find that each tendon or vein has its own light and shade, which is best expressed by leaving a *very*

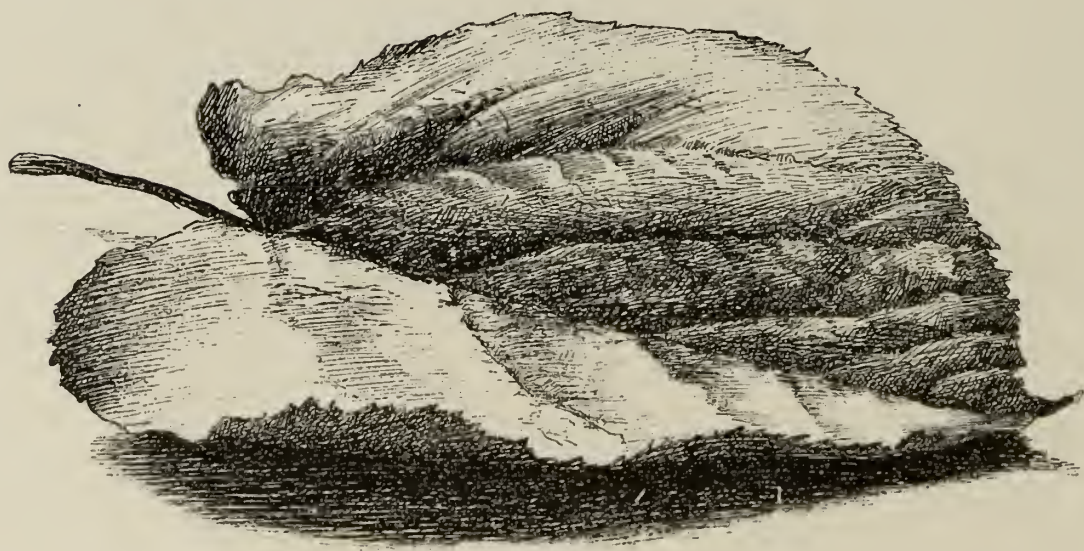


FIG. 74.

narrow line of light between two tints and adding a suggestion of shade ; but the treatment of such veins is very easily overdone, and only the *very* prominent ones should be thus shaded. Black

and white cannot show actual colour, but it can suggest it by



FIG. 75.

contrast of tints. If you have two leaves side by side, one darker than the other in colour, this difference can be shown by



FIG. 76.

making the half tone of one leaf a deeper tint than that of the

other. Again, if the drawing is of two bunches of grapes, one purple the other green, the colour of the dark bunch can be well suggested by a darker tint in its half-tone. Before working at a leaf directly from nature, it would be well to draw and shade from

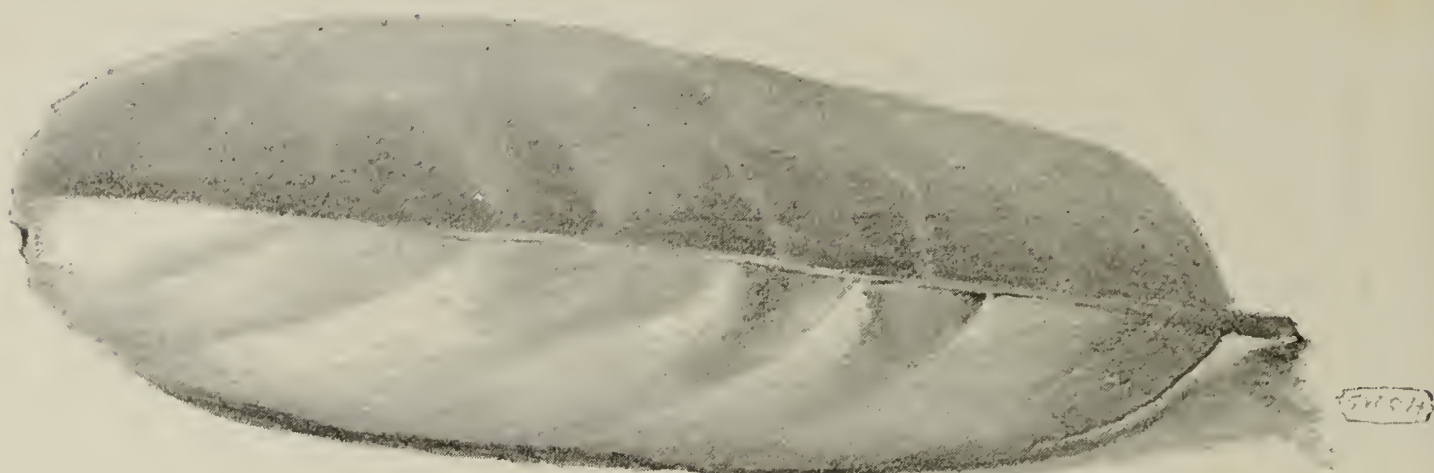


FIG. 77.

a plaster cast of a leaf, or at any rate to keep it by you, and it will give you a good idea of what the light and shade should look like minus the colour.



FIG. 78.—Brussels Sprouts.

In a black-and-white study from nature of landscape or architecture, colour can be, and should be, clearly suggested by the relative tones or values of various parts. The light and shade alone in such black-and-white work would not give the subtilty or variety of tone necessary to produce a pleasing effect. In such

drawings of landscapes, &c., the suggestion of colour is very important, and yet need not cause us to lose sight of the general light and shade of the whole landscape or of individual parts.



FIG. 79.

And in making black-and-white studies of growing plants or bunches of flowers or sprays of leaves it is very necessary to show contrasts of colour to produce a satisfying drawing.

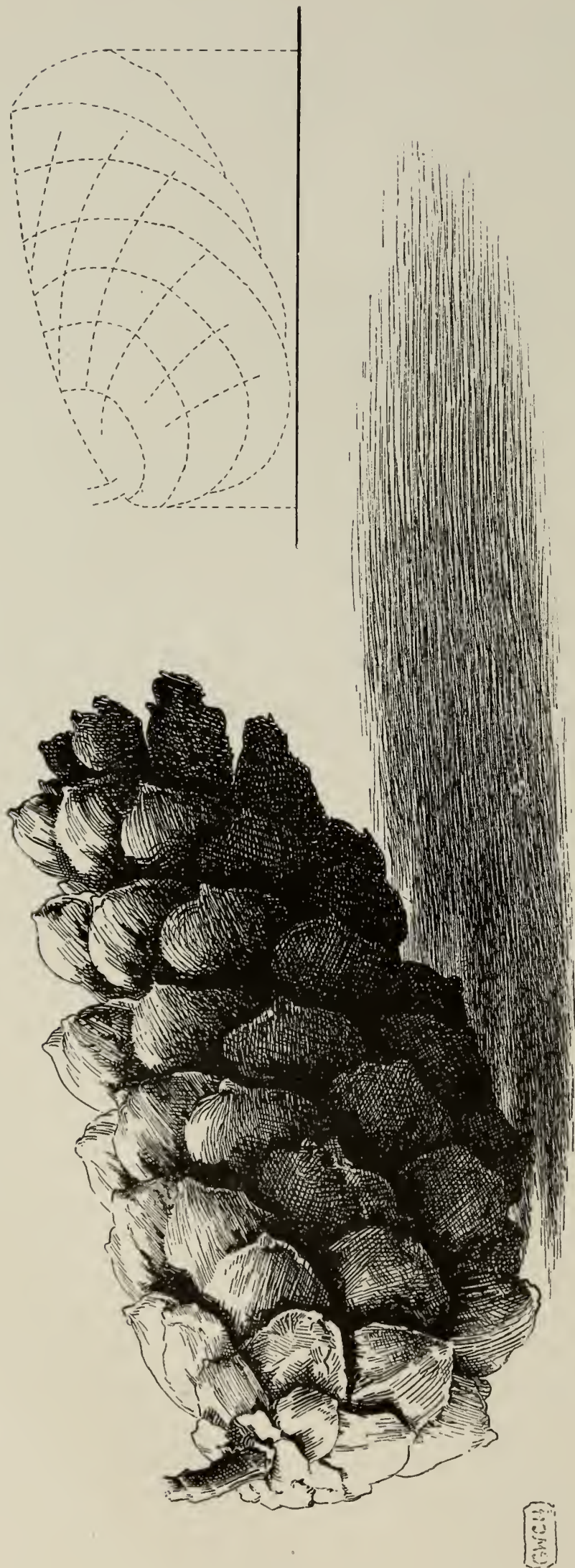
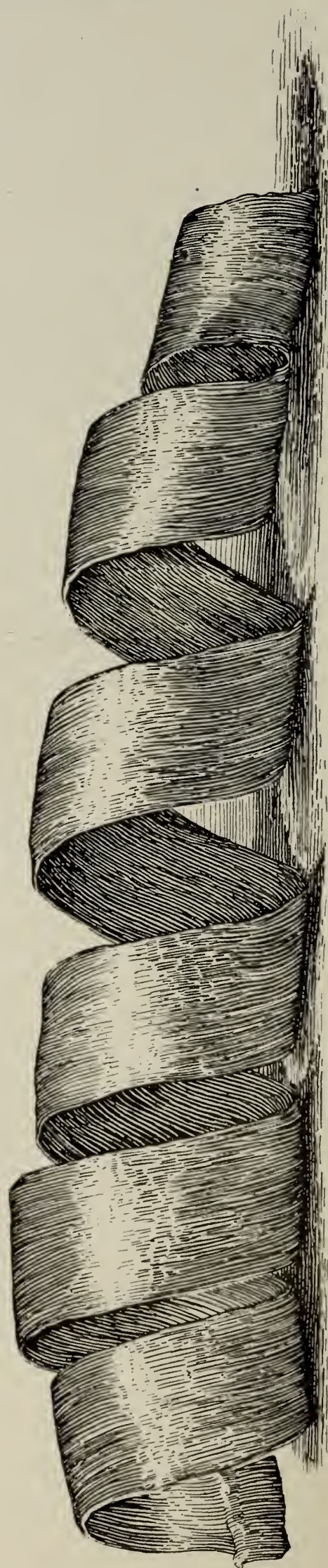


FIG. 80.



G.W.C.H.

FIG. 81.—A Wood Shaving in pen-and-ink.

DRAWING FLOWERS



APPILY flowers are everywhere, for we can have nothing more beautiful to draw than a flower, unless it be a beautiful face. Flowers,

leaves, all plant-forms give us the most perfect models we can desire, and by their infinite variety and aspects demand from us keen observation and attention if we would succeed in interpreting them aright. If we love flowers we shall delight in drawing them, and as we draw them we cannot fail to understand and know them better than we have ever done before.

A flower or a leaf is full of the most delicate and subtle curves, and, unless we have learned to observe keenly, we are sure to miss these at first, and it is only when we have learned to see somewhat truly that we shall begin to realise all their wealth of form. The drawings of flowers by Sir Frederic Leighton and Mr. Poynter

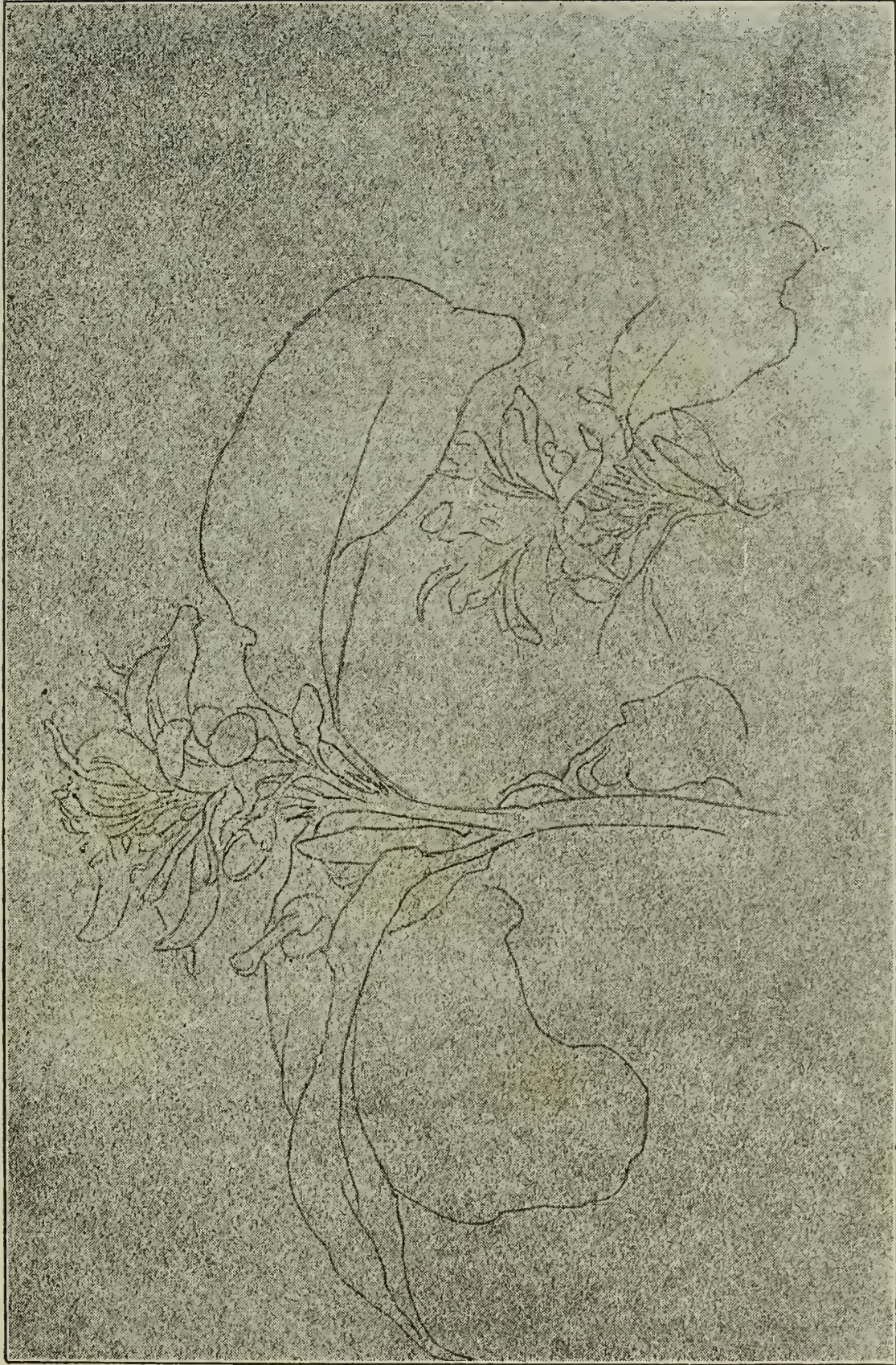
and Mr. Parsons have been well reproduced, and show us with what reverence these artists draw plant-form. What patient care they give to each detail, and how vividly they seize the character and individuality of each plant! In these examples we have some of the best work that has yet been done in England, and it is of the greatest value to see the best work so that we may aim high and not be content with a low level for ourselves. Good work always looks as if it had been easy to do, so probably many who look at these drawings for the first time may underrate them, and think they could not have been difficult to make: that opinion however they will probably speedily lose when they have tried to do similar things for themselves.

The drawing of lemon-blossom by Sir Frederic Leighton, P.R.A., is most delightful in its delicacy and feeling for form and colour. It shows us in every touch how the artist felt the beauty of the blossom, the unrevealed wealth of the buds, and the composition of the entire spray. It is the work of a man who has loved his work, and who has revelled in the grace of line before him, and has lingered over it until it has become a beautiful creation, accurate yet poetic, thoroughly constructed yet perfectly refined, showing almost to us the colour of the living plant. And thus we, if we love our work, must strive, earnestly and patiently, to absorb the beauty of what we see into our hearts, and then, and then only, may we find some of what we have absorbed reproduced by our pencil upon the paper.

For no man can reproduce a beauty that he does not feel, or make a beautiful drawing unless his heart is given entirely to it whilst he works. If we look closely into the drawing we shall see there is not an accidental line anywhere; [the eye has seen and noticed every minute curve and turn, and what the eye has



FIG. 82.—Lemon Blossom. Pencil drawing on toned paper by Sir F. Leighton, P.R.A.



• FIG. 83.—Lemon Blossom. Pencil drawing on toned paper by Sir F. Leighton, P.R.A.



FIG. 84.—Pencil drawings of Snapdragon, by Sir F. Leighton, P.R.A.



FIG. 85.—Pencil drawing, by E. J. Poynter, R.A.



FIG. 86.—Broom. Pen-and-ink drawing, by Alfred Parsons, R.I.



FIG. 87.—Snapdragon. Pen-and-ink drawing, by Alfred Parsons.

keenly seen the hand has faithfully drawn. Such work is a lesson we rarely see, and we should study it earnestly, and then going to nature strive to see aright what is before us, and to do our very best to interpret with our pencil or pen what we have seen; and our labour will not be in vain, even though we are dissatisfied with the result, for we shall at least have learnt something more of the beauty of God's creation. The illustration is so perfect in its reproduction that even the fibrous nature of the original paper has been reproduced. The drawings of flowers by Alfred Parsons are facsimile reproductions of his pen-and-ink studies. There is no man living who can do better work than Mr. Parsons in this especial branch of flower studies in pen and ink, and consequently no better examples could be given. His line work is not only most delicate and suggestive, but he manages to get into his drawings the sentiment and grace of the original flower, and his drawings are always graceful in arrangement and satisfying both to the mere flower-lover and to the scientific botanist. These drawings are full of instruction to those of us who delight in drawing flowers and will repay their earnest study. We may copy them as beginners over and over again, but the chief lesson to be eventually learnt from them is to go direct to nature and seek faithfully to interpret what we see—*our* view of the flower or plant before us, the especial way in which it appeals to *us* individually. We shall learn from these drawings also to be as simple as possible in our work, not to overcrowd it, to select the points that express the life and grace and poetry of the plant, and to pass lightly over what is not absolutely necessary for our drawing. As no man can speak words that are not in his mind, so we cannot express in drawing what is not in our hearts. We are sure to give out only a part of



FIG. 88.—Poppies. Design for an initial letter, by Alfred Parsons, R.I.

what we feel ourselves, and if we feel little, we can imagine how little of the charm and grace of the flower will pass into our drawing. We have to seize the best points of what we see, and to be very careful not to exaggerate any defects, but rather to be oblivious of them. An innate sense of taste will enable many to choose good subjects, to arrange and compose carefully so as to get the best view possible, *i.e.*, where the lines are graceful and the balance and composition perfect, but cultivated taste will enable others to succeed thus at last in a very fair degree.



FIG. 89.

We may learn a great deal from the Japanese in their arrangement of flowers; they never overcrowd them together, but, with true artistic feeling, are content with a very few, and so arrange these few that they shall compose together in graceful lines; harmony of line is as important as harmony of colour. Again, on looking at all these drawings by good men we can feel that each man has a distinctive style of his own. "The style is the man" is an often-quoted sentence. Each man's style in drawing is the manner in which he expresses what he sees; it is his voice concentrated into the pen or pencil point that tells how he saw what he has drawn and describes for us the beauty that



FIG. 90.—Sweet Pea.

he has found. A poetical writer may be able to describe the beauty of a flower, but his description cannot really appeal to us unless we too possess sufficient poetical imagination to be able to conjure up before us what we read about ; but the poetical writer of "the graphic language" can so describe the beauty of a flower that it must go home to the heart of the veriest clown and give delight to all. So let us when we draw take all the beauty we can find, strive not to miss the grace, and whilst being faithful to nature yet exercise also our powers of selection and choice.

The drawing of poppies by Alfred Parsons was originally intended as an initial-piece. The line work is especially instructive for beginners as it is simple and direct and light, and expresses very well the lightness of the petals. Notice especially the falling petals. We can almost see the upper one dropping. The drawing is graceful throughout, the arrangement is good everywhere, there is nothing stiff about it, the whole thing is natural and simple and therefore delightful, and the suggestion of colour in the flowers is very well given. There is one thing that, as beginners, we should especially notice, and that is, that it is not necessary to put everywhere an *outline* round a shaded object. Many of the petals in this drawing have no outline and thus gain very much in lightness. The form we can see is perfectly defined without the outline. And if that is so, nothing more can be required. A complete outline shuts the background out too much from the flower and so produces a hardness and unreality which is unpleasant. As beginners however it will be well that we should carefully pencil our outlines, so that we may not lose our drawing or way too much, although we need not ink over this outline. If in parts we find it necessary to have an ink outline, we must be careful not to let it by its strength or continuity have the appearance of a fence placed round a field !

PAINTING IN WATER-COLOURS

To get to painting is generally the aim of all who draw at all, and too often they get there much too soon. Painting is worthless without good drawing. Colour can never cloak or hide defects in drawing, and good colour without good drawing is worse than useless, for it calls vivid attention to all faults of drawing. In amateur and local exhibitions the lack of drawing in the pictures is most deplorable. Often, very often, the colour in a picture is very good, but all is spoiled by the bad drawing. This should not be ; but it will always be unless we determine to master the elements of drawing and to start from the bottom of the ladder and work our way patiently up, and refrain absolutely from painting till we are up a good way. Then again, too, many when once they begin to paint think it unnecessary to continue their careful drawing, whereas those who feel the great value of good drawing are always sketching carefully, recording impressions, and making notes.

Only monochrome painting is touched upon here, as the method for all water-colour painting whether in colours or monochrome is practically the same. Anyone can teach themselves how to produce variations of tint by mixing colours.

The following list of safe colours is given by Mr. Ellis in his *Sketching from Nature* :—

<i>Reds.</i>	<i>Yellows.</i>	<i>Browns.</i>
1. Vermilion or Cinna- bar.	4. Yellow Ochre.	8. Burnt Sienna.
2. Carmine Madder.	5. Lemon Yellow.	9. Raw Umber.
3. Light Red.	6. Orange Cadmium.	10. Sepia.
	7. Aureolin.	11. Brown Madder.

<i>Blues.</i>	<i>Blacks.</i>	<i>Supplementary.</i>
12. Cobalt.	14. Ivory Black.	1. Transparent Oxide of Chromium or Cobalt Green.
13. French Blue.		2. Ultramarine Ash.
		3. Cyanine Blue.
		4. Raw Sienna.

BRUSH WORK IN WATER-COLOUR MONOCHROME

All necessary lines should be drawn *very lightly* with a soft pencil, so that they can be easily rubbed out without spoiling the paper. Use bread in preference to any other eraser for this purpose. The best practice at first will be to fill in simple outlines of squares or circles, &c., with flat washes of colour. This should be continued until the space outlined can be filled in with a tint that will dry perfectly evenly and fill all corners completely, and nowhere overlap the outline.

Commence by carefully mixing the required tint, taking care to have a sufficient quantity of it.

Fill the brush rather full with the paint, keeping the drawing slightly sloping, and start at the top of the outlined space and work from left to right horizontally and steadily, taking care to leave no untouched spots or gaps. (Do not go over the same ground twice *whilst the colour is wet.*) When you arrive at the bottom of the space outlined, the superfluous colour can be taken off by applying a dry brush to it. The dry brush will act as a sponge and absorb the paint. By working with a full brush the lowest edge of each horizontal stroke of the brush remains wet long enough to enable the next stroke placed under it to blend with it softly without leaving a hard edge.

If the space to be covered with the tint is small, it may be first washed by the brush with plain water, and then into the middle of this wet surface may be dropped the colour from a full brush until it has run entirely over the whole space and filled the outline ; of course it is understood that the plain water wash has very carefully filled all corners and crevices beforehand. When dry the tint should be perfectly even and flat. If a large surface has to be tinted it would be advisable to damp the whole of the paper evenly with plain water and pin the paper down and let it almost dry before laying the tint according to the first plan. The next step may be to gradate a surface from the darkest tint to white as in the gradated shading given for ink or pencil work. Gradation of tint is as desirable and necessary in water-colour painting as in other processes.

A gradated tint such as in the example is best obtained as follows : First well damp the paper ; then, whilst this is partly drying, mix your tint of the darkest shade required and of just sufficient quantity to cover the space to be tinted.

Start with a full brush as directed for the first flat tinting and work across the top of the strip from left to right. Before each subsequent stroke across the strip put a few drops of clean water into the colour on your palette ; if this is done with care and regularity the result should be a most delicately gradated tint. If a tint is required to gradate from light to dark, begin with a little clean water and gradually add the colour ; if the colour or any part is too dark and heavy it can be lightened by moistening *that particular part only* with water and dabbing it with a piece of soft rag.

Parts that are too pale may be separately retinted.

Lights may be taken out very successfully and softly and with much precision, *when the colour is still wet*, by touching the wet colour with a *dry* brush, the brush acting as a sponge and remov-

ing by absorption a certain quantity of paint. Care must be taken that before each subsequent touch the brush is again clean and dry. The wash of colour should be a rather full one, so that it may not dry before the required lights are taken out, and the paper should be kept in one position until the tint is quite dry. If moved too soon the colour might run back over the obtained light.

Lights may be taken out of a dry tint by moistening the part to be removed (keeping very carefully the drawing and exact shape and position of the required light) and rubbing in one direction only with a rag or bread, having allowed an interval of a few seconds to permit the moisture to sink in.

If the colour is hard to remove, by *pushing* the brush tolerably firmly on the paper a slight erasure of the upper surface of the paper is made, and the light is left fairly white on dabbing with a rag.

Sharp lights may be also taken out of a dry tint with a penknife. A dry tint or parts of a tint that are too heavy or dark may be sometimes lightened with india-rubber or bread without damping; often a better effect is obtained by lightening a tint than by putting on the colour the right depth at once.

Hard edges can be avoided by immediately on laying a wash passing a clean dry brush along the edges so as to prevent the wash drying with a sharp line.

Hard edges or lines can be also got rid of with washes of clean water. Final modelling of shade and form can be obtained by using the brush as a very broad pencil, not with scratchy or wirey touches but with small washes.

Stippling or dotting in the colour with a fine brush is to be avoided, and should not be necessary except to fill in accidental spots or spaces.

For delicate work the shade tints should be put on first. When these are dry, wash over all the drawing the half-tint with a full brush, pick out the lights with a clean dry brush, and then complete with as few touches over this as possible.

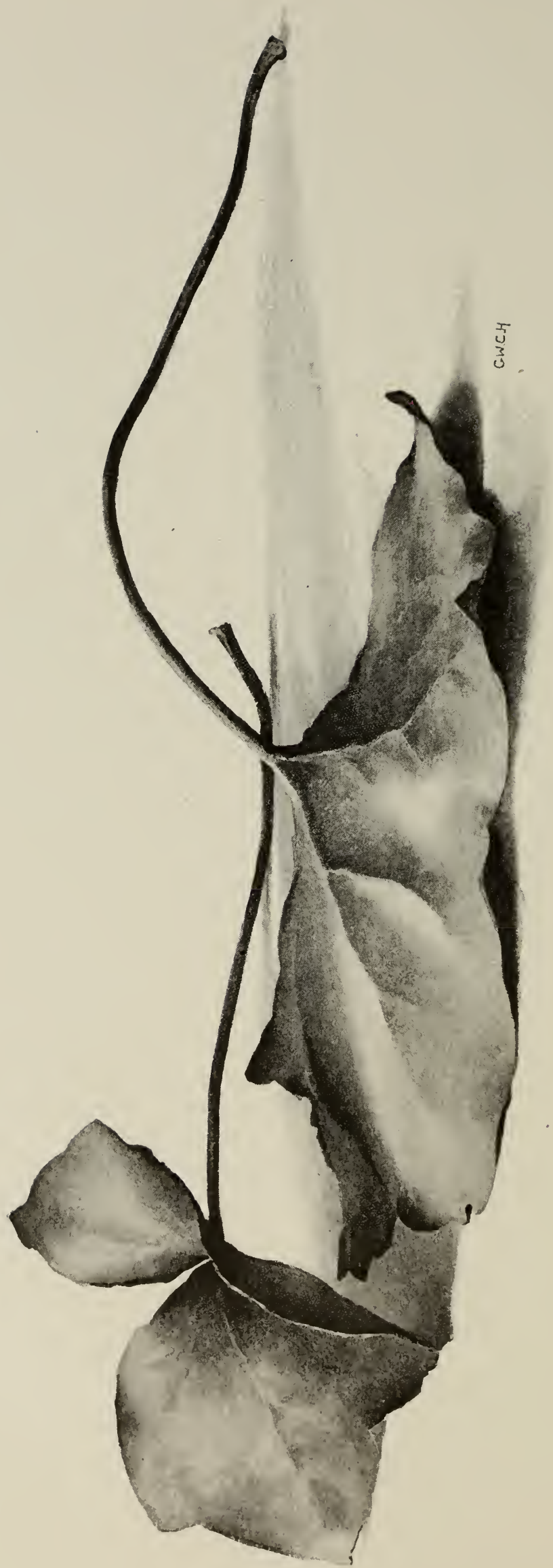
It must be remembered that the first tints put upon white paper look stronger and darker than they really are by contrast with the white round them, so it is advisable to put in the first shadows rather darker than you think they are.

Should stippling have been resorted to, the stippled parts should be washed with clean water to blend the small markings.

All that has been insisted on previously as to correct values must be most carefully attended to in all painting as much as in charcoal or pencil work. A vast number of paintings fail in being good because *the values* have not been considered throughout. The most perfect work is that which is true to nature, and this faithfulness can only be when all *values* are correct. Constant comparison of one tone with another all through the painting of a picture is one of the surest roads to success.

It cannot be too strongly impressed upon the student that the best work is that which is done *at once*, *i.e.* without alteration or correction. Spottiness, woolliness, and other unpleasant effects result in water-colour painting almost entirely from the painter having been uncertain how to obtain the effect he desires, or from not knowing *definitely* the shapes and forms of the portions he wishes to colour. Here good drawing must tell. Never make a stroke with your brush unless you are certain as to the exact place for that stroke and what should be its right form ; it may be slow work at first, but it is the right way and worth the trouble spent over it.

When the student wishes to use more than one colour, beautiful



CWCH

FIG. 91.

and delicate as well as strong modelling tints can be mixed with cobalt and red ; and when the object is well modelled with these tints, the local colours can be taken as washes over all. This is especially recommended for heads and figure-painting, where good modelling is absolutely necessary. And this first or under-modelling prevents the delicate flesh tints being rubbed or disturbed in getting the modelling, as they would be apt to be if placed under the modelling.

Keep paper by you on which you may try your colour and your hand before working on your painting. Above all, *know* what you are going to do. Decision is most important ; indecision is fatal in water-colours as in everything else. Modelling tints should be, when completed, a little lighter than they ought to be, as the colour washes will deepen them as well as the white portions of the paper.

For such a study as Fig. 91, draw the outline delicately and with as little erasure as possible. Then wet the paper all over and pin it down as flatly as you can, so that it may dry stretched.

When the paper is fairly dry commence the shading in the darkest part. Fill your brush full and gradate the tint softly down where necessary with another clean brush. If the darkest part is at the bottom of a tint, and not at the top, commence with a very little clean water and wash your tint into that delicately and add more colour as you come down with it, remembering that a dry clean brush will readily remove any excess of paint, if used whilst the colour is still wet. When you have modelled carefully all the shade portions, *and the paint is dry*, take a wash of clean water all over the leaf, keeping carefully within bounds. Then, whilst this is still damp, take a full wash of colour for the half-tone all over the leaf. A full wash is necessary as a scanty wash will dry too rapidly. Now, *whilst the colour is still wet* (keep your paper almost flat for this), with a clean dry brush take out the lights, taking care that the brush is



FIG. 92.—Larch Cones. Wash drawing, by W. G. Addison

clean and dry each time you put it to the paper for this purpose. If this is done rapidly and skilfully the lights should be very soft and well gradated. Remember to get the correct shapes of the lights very carefully.

Another way, which some may find easier, is to carefully leave the



FIG. 93.—Wash drawing, by Alfred Parsons, R.I.

spaces for the high lights when putting on the wash of half-tone. As long as a good result is obtained ultimately, any difference in the method of obtaining that result is unimportant. The shapes of the cast shadows may be drawn with a little water, so as to keep the edges soft; the darkest part of the shadow tint may then be put on



FIG. 94.—Fir Trees, by J. MacWhirter, R.A.

and washed softly away. Wait until each tint is dry before applying another.

The monochrome study of larch cones by Mr. W. G. Addison is capital in every way. The composition and arrangement is good and the cones are thoroughly well modelled and understood, and the treatment is delicate without sacrificing strength. It has been worked with a full brush and liberal colour. The modelling of each cone as a solid body possessing light and shade has been first thought of and then necessary detail added without cutting up the breadth and simplicity of the whole cone. It forms a useful copy for beginners as well as a good example of style and work when we go direct to nature for ourselves.

LANDSCAPE WASH-DRAWING IN MONOCHROME

The water-colour drawing of fir-trees by Mr. MacWhirter, R.A., is a very valuable lesson, and should be well studied. Mr. MacWhirter is an acknowledged master in tree-drawing. His fir-trees are world-renowned and appreciated by all good judges for their boldness, accuracy in drawing and character, and clever treatment. Such an example of good work by a most clever painter is invaluable to us as students.

This study of beech-trees by Alfred Parsons is given as a specimen of a very good style of work in black and white. The modelling of the large tree trunk is delicate and true, and the values of the lights and shades most thoroughly and truly thought out and rendered. Nothing is heavy and no part is over-treated, and the foliage is light and graceful. In such direct study from nature we have to remember that all parts of a drawing have their distinct values, and that their values must be carefully attended to and thought out all through the drawing. Details that attract one's



ALFRED PARSONS.

AKG

FIG. 95. - Beech Trees, by Alfred Parsons, R.I

eyes wherever we turn them have to be carefully compared and given only their strict value and no more. Some who are gifted with good sight may say, "Well, but I see those details ; am I not to put in what I see?" One answer to this is, that in all probability the piece of paper or canvas we are working on is infinitely small compared with the size of the portion of nature we want to copy ; consequently our work would have to be microscopically minute to give in their true values the details in the distance ; so small that the result would be only that to be equally well obtained by a tint. When we first see a bit of nature that we feel we should like to study, we have received a rapid impression of beauty that has opened out before us. We don't see everything at once, all detail, &c. Our minds have received an impression, and it is that impression we must seek to render. And be content, thankfully content, if we can render it at all. When we have commenced to pry more deeply into our selected "bit," then we unfortunately begin to see details, more and more details the more closely we look. Now these details are generally quite unnecessary for our picture, and it is too often the vain and hopeless endeavour to put in all we see that makes our early drawings so hard and cut up.

As we have, in working from leaves or plants, &c., from nature, to carefully weigh the different values of all details, so we must in working from landscape be careful to weigh the values of all parts. We must, as William Hunt tells us, look first for the big things. First, proportions ; second, values, or masses of light and shade ; and third, details that will not spoil our beginnings. And this third item is most intensely important in landscape work, such studies from nature as Alfred Parsons's drawing of beech-trees. A very little spoils too often what would otherwise have made a pleasing drawing. Something over-done, too minutely rendered, and so dragged out of place, upsets the balance of the whole drawing and



FIG. 96.--The Avon near Tewkesbury, by Alfred Parsons.

makes the values all wrong. Better far put in too little than too much. Painters will tell you that to finish their pictures they have often to take out a good deal they have put in, *as it is not needed*. That is a useful suggestion for us, to put in nothing that is unnecessary into a picture; don't drag anything in because you see it merely. A good picture is produced by means of thought, and comparison, and selection, not by rashly trying to copy everything you see in the foreground, in the middle distance, and in the distance also.

We should choose some one portion of our drawing where we feel the interest concentrates, and there we may put in with careful conscientious work some details that appeal to us as being prominent; but after this nothing else in the drawing must or can be equally prominent if we are studying our values properly; and the further we get into our drawing from this chosen part, the less and less detail must be put in. Details must be lost in breadth of treatment and simplicity of work. The drawing of the Avon at Tewkesbury by Alfred Parsons will explain this better than any words can. We can speedily realise that the effect of middle distance and distance that he obtains could never have been obtained if details had been wrongly valued or expressed. All parts of this drawing have their correct proportion of tone and detail to the delightful work in the foreground. And to get this right value, notice how simply and broadly other parts have been treated, and that is why they look right and the whole drawing so pleasing. (Mr. Parsons has in both these drawings used Chinese white to obtain lights and delicate greys.)

The drawing by David Cox is also a capital example of simple direct work and of breadth and style in treatment. Again, in the pencil drawings of Sir George Reid and Mr. Brown, notice the treatment of the foregrounds and middle distance and the distances, how all are subservient to each other and in perfect harmony; this is only because the values are correctly treated and rendered.



FIG. 97.—Monochrome Study, by David Cox, Senr.

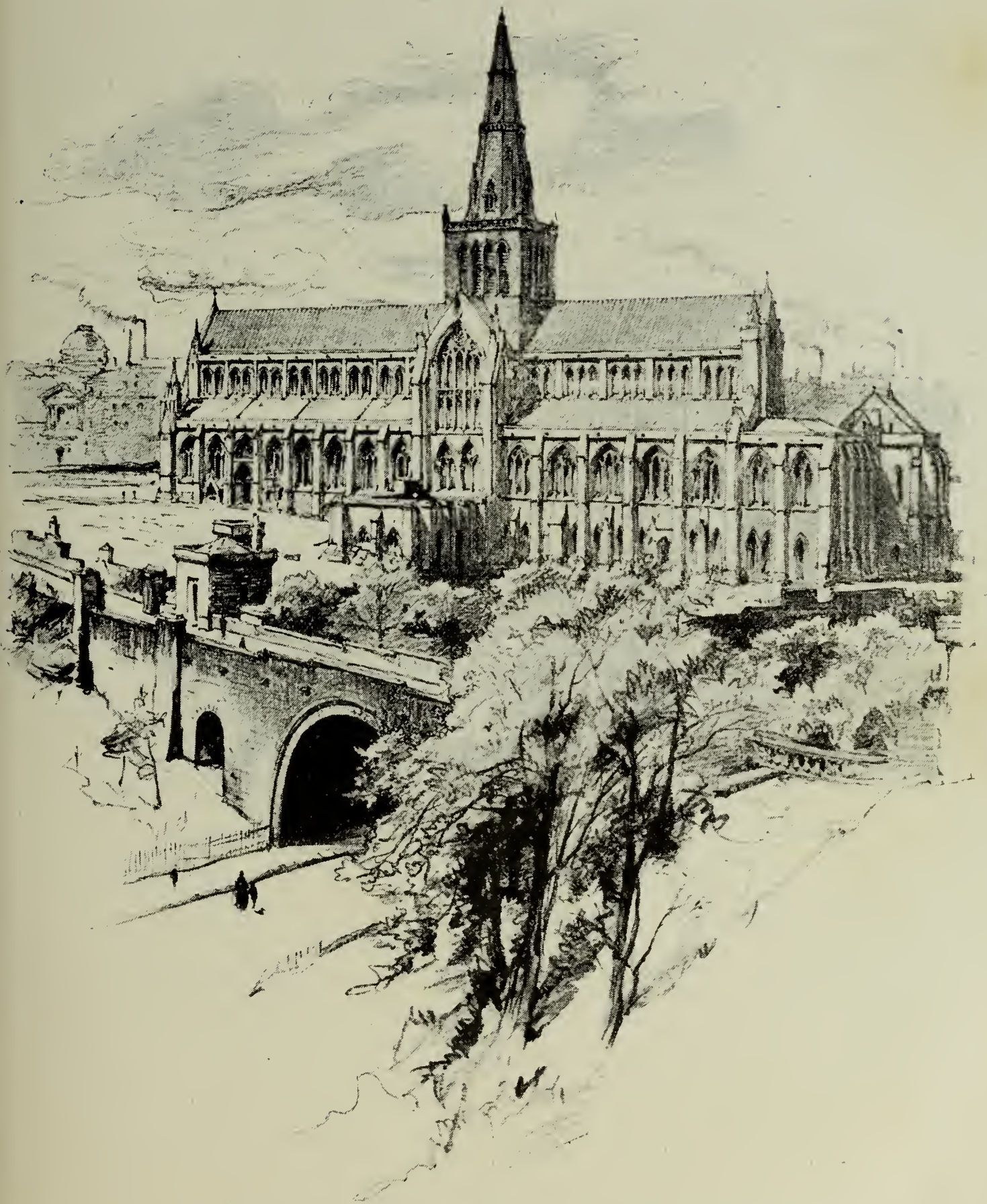


FIG. 98.—Glasgow Cathedral. Pencil drawing, by Sir Geo. Reid, P.R.S.A

The pencil is especially adapted for fine and delicate black-and-white work ; for coarser, bolder work it is not so adapted as charcoal or pen and ink. The drawings by Sir F. Leighton, E. J. Poynter, R.A., Sir George Reid, and Mr. J. R. Brown have been all executed in pencil, and each show in a different manner what can be done with the pencil point. In making a pencil drawing such care should be taken that the effacing of any part should be hardly necessary. The work should be felt out and sketched in with lines so faint that they need not be rubbed out at all ; but should erasure be necessary bread should be used. On no account use india-rubber, as the result is nearly always a smudge or smear.

For architectural drawing the pencil is especially adapted, as we can see in Mr. Brown's beautiful drawing of the High Street, Guildford, where the work is most delicately clean and full of suggestion and refinement.

In both his drawings Sir George Reid, P.R.S.A., has been marvellously successful with the pencil. The bridge picture is full of air and smoke, and the bridge construction is a mass of beautiful wrought out detail, that is perfect in its way. Note also the reflections in the water.

The drawing of Glasgow Cathedral is also most valuable in showing what can be done with the pencil point.

These drawings all present a high type of work—work that is thoroughly artistic, and earnest, and refined.

There is none of that fatal suggestion of “touch” that used to be so rampant formerly when pupils were taught a “touch” for every kind of work, and effect was more thought of than truth and earnest endeavour to see aright and to interpret aright.

It doesn't matter what medium we employ—pencil, pen, charcoal, or paint ; the thing required is that we should go to nature direct ;

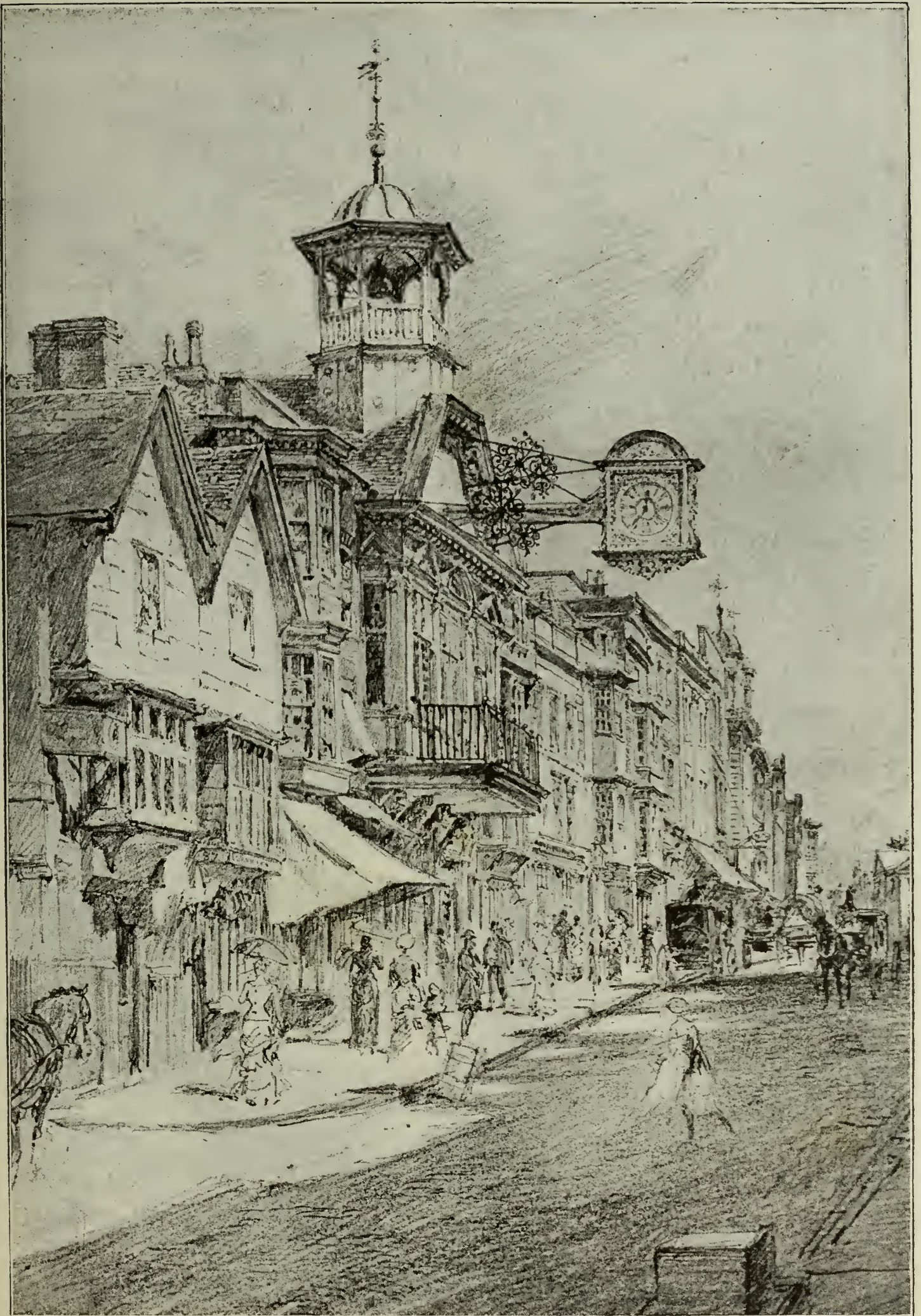


FIG. 99.—Pencil drawing of the High Street, Guildford, by J. R. Brown.

and, feeling the influence of what we see, we should strive humbly, faithfully, earnestly to interpret what we can, and as well as ever we can. These examples are given that we may have a high standard before us, to impress us and give us high aims for ourselves and to teach us good methods of work. Let us look at them, study them, be influenced by them, and then strive to emulate them. We must not shirk comparison of our work with the best work. We cannot hope to succeed at first, but we can by constant practice and patient endeavour lift up our work to a higher level bit by bit, and in thus striving there is a pleasure that those who never strive can never feel.

Many people are given to scribbling off little heads and faces of their friends or people they have met. They have a natural inclination to draw heads, just as others care only for landscape sketching, and often we find among such scribbings many that have somehow or other managed to catch a very fair likeness, and yet about the drawing there is a something that is unsatisfactory to the observer. This something is very frequently, nay generally, the result of an absence of superficial anatomy, that would by its presence have pulled things together into their proper places. Few people, except artists, realize the importance of knowing something of the bones of the head and figure, and that these bones give certain definite points that are of the utmost importance in making a drawing. Now, if we look at the illustrations of the front and side view of the human skull given here we shall readily notice the chief points where bone asserts itself in most faces in some degree. First we see that the bone of the nose is much shorter than the actual length of the nose, and if we examine any face we can scarcely fail to see where bone

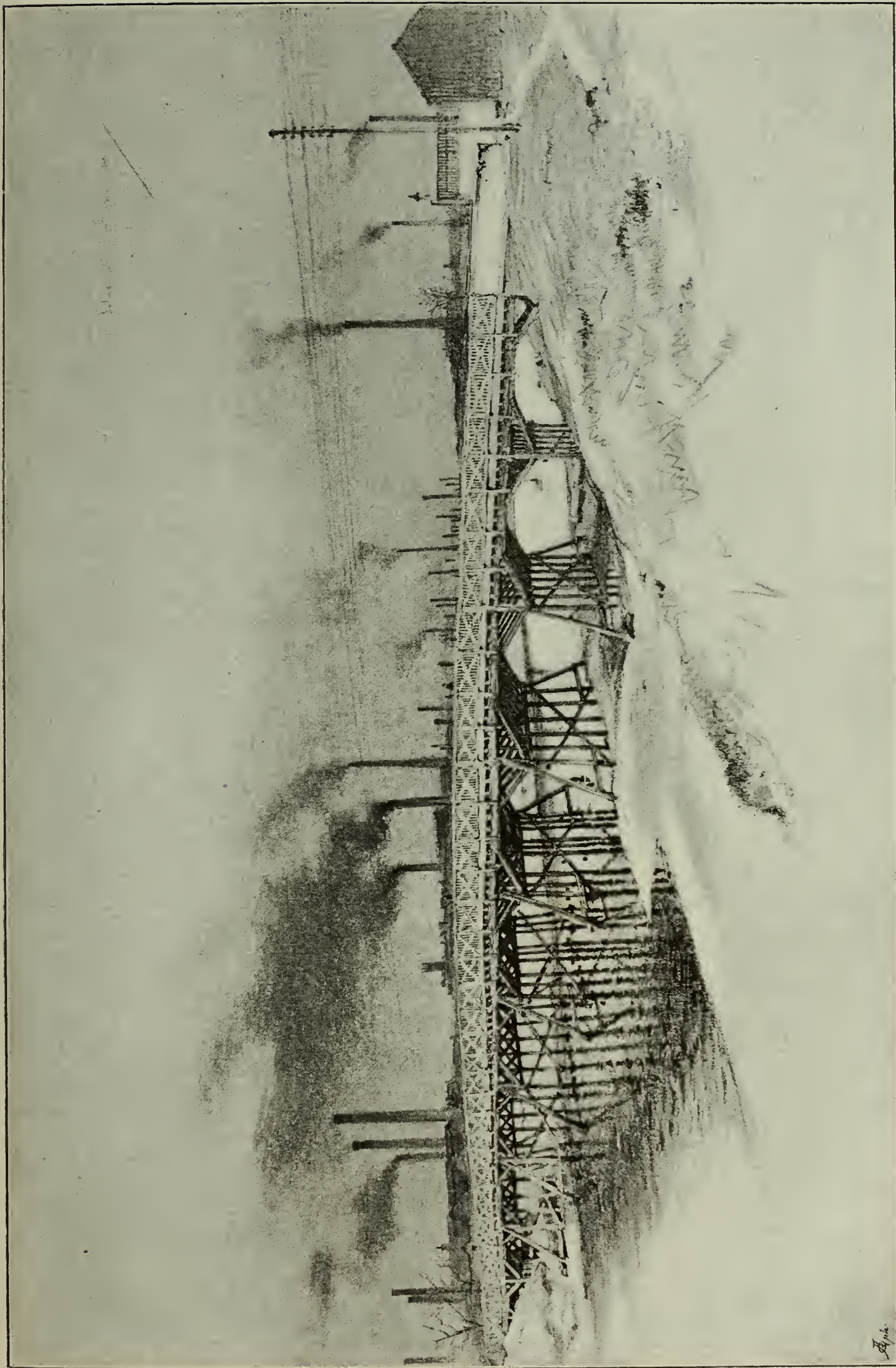


FIG. 100.—Pencil drawing, by Sir Geo. Reid, P.R.S.A.

ends and gristle begins. Then the cheek bone holds a very important position in the face, and in an old or thin face it is sure to be prominent. On the cheek bone there generally falls a high light, and this light is very valuable in a painting or drawing, as it helps much to express the requisite modelling of the cheek ; and so it is well to understand how this bone turns from the front of the face to the side of the head. Notice also that the level of the base of the cheek-bone is not far above that of the base of the nose. Again, it is well to notice how low down in the head the two great sockets for the eyes come, and what a large ball the eye really is to need such a socket, and how admirable is the play of the two lids as close-fitting shutters over this eyeball. One of the greatest and most frequent mistakes of beginners in drawing faces is to make the space between the base of the nose and the inside corner of the eye far too long ; if this space is carefully measured in comparison with the length of the eye it will be found to be generally only about once and a quarter the length of the eye itself. Also in a full view of a face the space between the eyes is about the length of an eye ; and this is also generally the measurement of the width of the nose at the widest outline of the nostrils. The bone at the upper end of the eye socket, just where the eyebrow fades off, is nearly always noticeable ; generally the whole of the outer edge of the eye socket can be easily traced. The under surface also of the lower jaw-bone can be always traced to where it turns up to meet the ear, and thus the position of the ear can be accurately fixed, for the hole of the ear is always a short space behind where the lower jaw-bone hinges on the extremity of the cheek-bone. If the position of this hole in the ear is first fixed, the drawing of the rest of the ear cannot go far out of its place. The position of the ear is never vertical, but

always in a slightly oblique direction. When the face is quite upright the top of the ear should end below the eyebrows, and the lobe of the ear not lower than the base of the nose. Another useful point to remember in drawing heads is, that taking a full

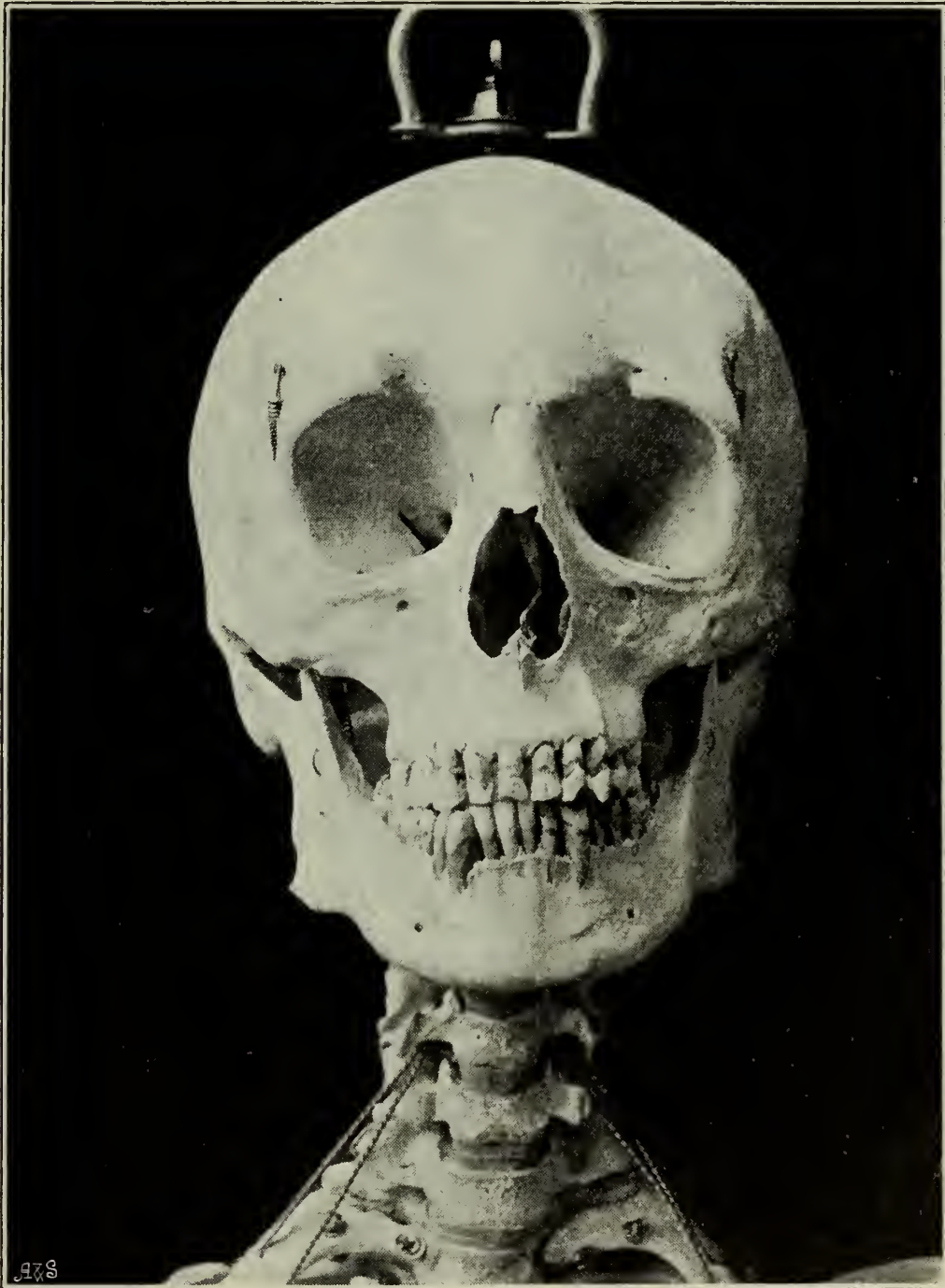


FIG. 101.

view of an upright face, if horizontal lines were drawn at the top of the eye sockets and through the corners of both eyes, at the base of the nose, and between the corners of the mouth, and at the base of the chin, these horizontal lines would be all parallel

to each other. If the head were bent down or raised up these horizontal lines would become curved, but still they would remain parallel to each other in whatever position the head was placed.

Again, it is a common fault to make the back of the head too



FIG. 102

flat; if we look at the side view of the skull we shall see how beautifully the head is balanced on the spine, and how much of it really extends beyond the spine, though the presence of muscle and hair hides this to a great extent.

It is a very difficult thing for a beginner to set a head well upon the neck and shoulders. In the side view of the skull we may notice under the hole of the ear a projection of the bone of the skull pointing downwards: from above this, on each side of the head, we shall find in any neck we look at a long broad and strong muscle extending to the hollow at the base of the neck in front between the two collar bones. This very important neck muscle comes from behind each ear, and it is most necessary to indicate it in a drawing, especially at the base of the neck; it is always visible there, even in children, and very visible in older people.

If we pass on to the bones of the skeleton we shall find that in most people we can trace the course of the collar bones from where they rest upon the breast bone and first rib, to their hinging upon the shoulder blade just above the head of the humerus or upper arm bone. The shoulder blades at the back are easily traced.

The end of the breast bone and the arch of the ribs are often noticeable.

If the arm is in full view we can nearly always trace the positions of the knobs of the humerus at its lower end, one on each side of the arm. In a side or back view of the arm, what we usually call "the funny bone," one of the heads of the ulna, is always in evidence. Again, by the wrist, another knob of the ulna is always seen at the outside of the arm, and of course the knuckles and finger joints are plainly seen.

A glance at the skeleton given here will show at the knee how much bone is prominent. The knee is not a fleshy part as a rule, and requires in drawing it very great attention to the points of bone; these are well explained in the illustration, and the knee-cap cannot easily be missed.

The two knobs we call ankle bones are heads of two different bones: the inner one belongs to the shin bone, the outer and lower of the two to the fibula.

Those of us who travel in the East will have ample opportunity of sketching the figure. If we understand the framework upon which all the muscles are built, and especially the points where bone shows, our drawings will look less like stuffed dolls than they too often do.

It is a good plan for beginners to start their drawing, if there is no necessity to hurry, as though they saw through the figure right down to the bone, and make it their principal object to show where bone can be traced. A knowledge of superficial anatomy is very useful, but such knowledge by itself will not enable us to draw the human figure. We must for real work rely upon nothing but keen observation, and then knowledge will confirm our observation and prove a help and not a stumbling block.

BONES OF THE HUMAN SKELETON.

- | | |
|---|--|
| 1. Frontal bone. | 19. Coccyx. |
| 2. Parietal bone. | 20. Iliac bone. |
| 3. Temporal bone. | 21. Humerus, or arm bone. |
| 4. Occipital bone. | 22. Cubit, or ulna. |
| 5. Malar or cheek bone. | 23. Radius. |
| 6. Superior maxillary, or upper jaw bone. | 24. Carpus, or carpal bones ; eight in number. |
| 7. Bones of the nose. | 25. Metacarpus, or metacarpal bones ; five in number. |
| 8. Inferior maxillary, or lower jaw bone. | 26. Phalanges, or bones of the fingers ; fourteen in number. |
| 9. Last cervical vertebra, or bone of the neck. | 27. Femur or thigh bone. |
| 10. Clavicle, or collar bone. | 28. Patella, or knee cap, protecting knee joint. |
| 11. Scapula, or shoulder blade. | 29. Tibia, or shin bone. |
| 12. Sternum, or breast bone. | 30. Fibula, or brooch bone. |
| 13. First rib. | 31. Tarsus, or tarsal bones ; seven in number. |
| 14. Seventh rib. | 32. Metatarsus, or metatarsal bones ; five in number. |
| 15. Twelfth rib. | 33. Phalanges of the toes ; fourteen in number. |
| 16. Twelfth dorsal vertebra. | |
| 17. Fifth lumbar vertebra. | |
| 18. Sacrum. | |

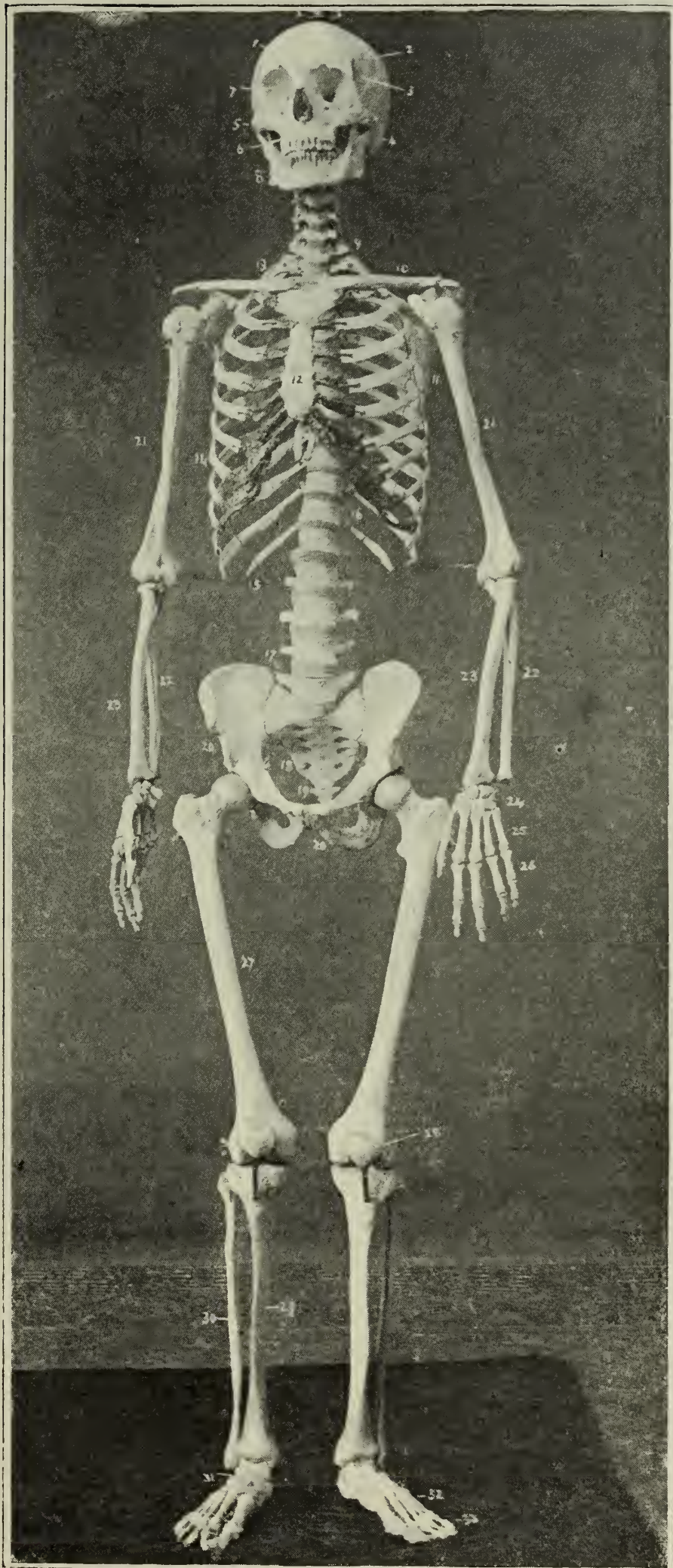


FIG. 103.

Do not in drawing a head in full or three-quarter view start with the outline of the whole head. It will be almost impossible, for a beginner at least, to fit the details into that outline correctly ; and it will be just as impossible to draw the outline correctly without the help of the interior parts or features as a guide. So begin by indicating the position and proportions of the eyes, not severely at first, but, as it were, feel your way with faint lines until you have found their right size and place and distance from each other and right inclination. Then indicate under them the base of the nose, and then the position of the lips under the nose, remembering that the direction of all these is parallel to each other. Then settle where the chin should end, and the top of the forehead, and then the top of the head, and thus obtain a sort of mask of the head, with nothing very definitely drawn and nothing actually fixed. Mark where the cheek bones come, and so get to the position of the ear, and then to the limits of the hair, and indicate the neck. When you have all this in very faintly, study well the proportions of the whole : see that you have not made the nose too long, and if the face is in three-quarter view, be very careful about the foreshortening of the eyes—*both* will be foreshortened, the further one considerably. By imagining vertical lines running up from the nostrils to the eyes, the position of the nostrils or tip of the nose can be easily found. Similar lines will help in finding the positions of the corners of the lips. Measure carefully until you are sure of the proportions of all parts to each other or to one especial part, such as the length of an eye, which you may take as a standard of measurement for all features. Then when you are satisfied you can commence to definitely draw the details.

In the same way proportion should be your first thought after indicating the position and action of the figure. Try

and get "the go" of the figure as swiftly as you can. A model soon tires, and a position that may at first have been full of swing and action speedily loses its charm and becomes more or less limp and unlike what at first was so pleasing. So catch the action and force of the figure as quickly as possible, and then on that swift indication of what you saw begin to create your drawing, and get it by degrees and feel your way as for a head over the whole drawing. Take the length of the head as a standard of measurement and compare all proportions with that standard. Try and get the character and type of the model, his individuality especially, and as in all other kinds of drawing, get, as William Hunt says, "the big things first. First, the proportions; second, the values or masses of light and shade broadly, and then you may add details that will not spoil the beginnings." But don't overcrowd a drawing of a figure any more than you would after practice that of a leaf or flower. Breadth and simplicity are valuable qualities in all drawings. Don't take anything for granted, or because you have heard that a figure should measure so many heads, try and make all your figures in those proportions. Rely upon your own observation, and tell with your pencil or brush exactly what you see and have found to be correct by your own measurement. Try to see surfaces. A figure is composed of many irregular sides or surfaces, and these must be found and indicated if you don't want your figure to look like a sausage.

This reproduction of a pencil drawing from the antique by Mr. F. Watts, R.A., is of the exact size of the original drawing, and shows how breadth of treatment can be obtained in a small work. Mr. Watts has rendered perfectly, in this minute drawing the masses of light and shade which give the modelling of the surfaces of the figure. Unimportant detail has been left out, whilst the fleshiness

of the figure has been largely suggested by the delicate and accurate drawing of the shades and shadows.

When you have some knowledge of the bones of the skeleton, obtain or borrow a book on Anatomy for Artists, or a plate or two giving the superficial anatomy of the human figure. Study these until you know the positions and *work* of all the principal muscles. Get some drawings (or better still, make them) of the human figure from life, or casts, and turn these drawings into anatomical ones. But when you have gained your knowledge,

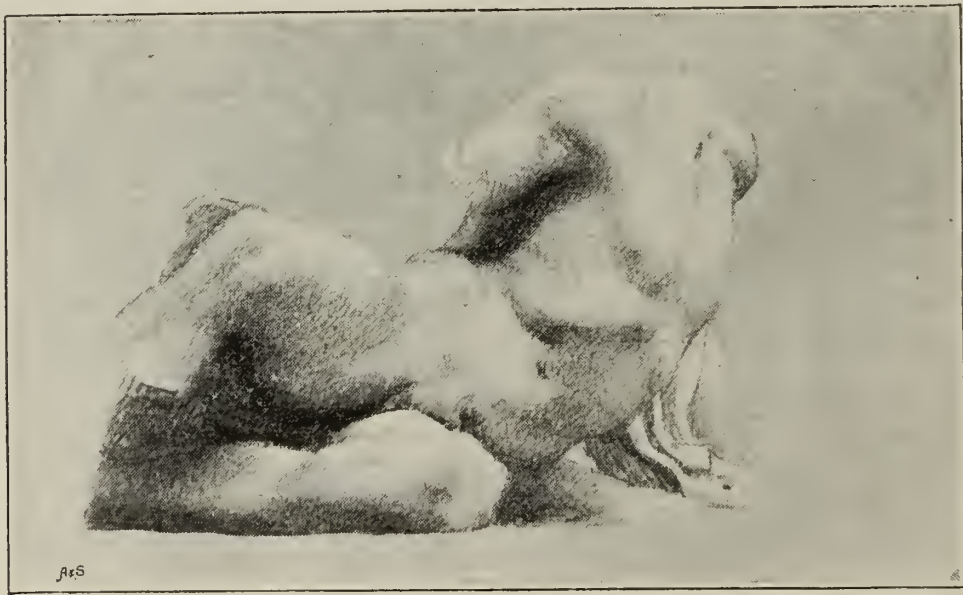


FIG. 104.—Pencil drawing, by F. Watts, R.A.

don't let it monopolise the place of close observation, or rely too much upon it. Make a point of drawing *only* what you see, and then your knowledge will enable you to understand what you see.

What appear to be concave curves in the outline of natural objects will generally be found, on close inspection, to be combinations of several short, straight, or slightly convex lines at angles to each other and which together give a first impression of one concave line. In the human figure every curve in the outline is

convex in a greater or less degree ; no really concave forms are to be found in it. An example of this, that can be readily observed by all, will be found in the curve between the thumb and first finger, when the space between the thumb and finger is extended.

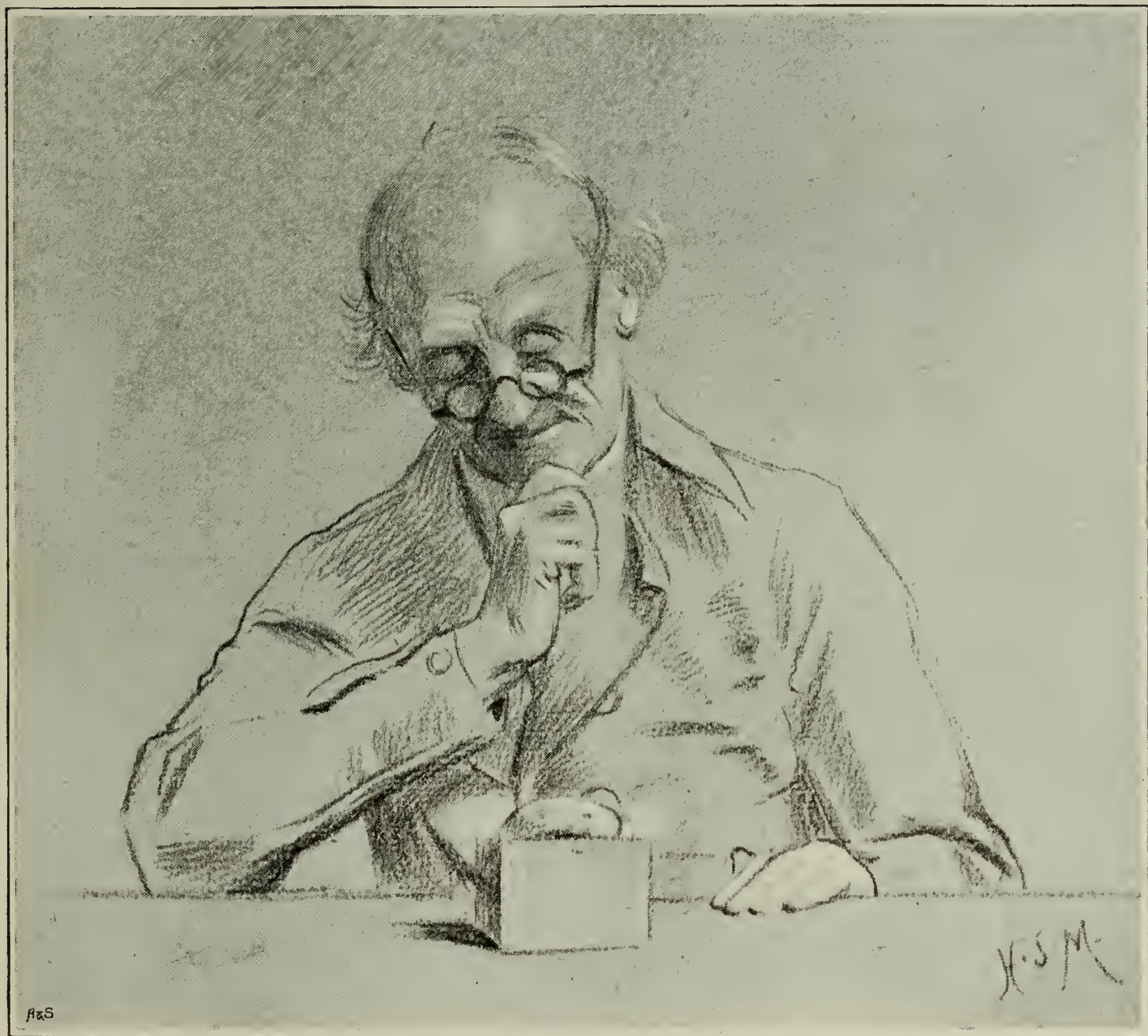


FIG. 105.—Chalk drawing, by H. S. Marks, R.A.

The first impression is that of a distinct concave curve, but on inspection this apparent concave curve will be readily seen to be composed of several slightly convex curves. Also many convex forms in natural objects will on inspection be found to consist

of three or more straightish lines which together give at the first glance an impression of only one convex line.

This is especially the case in the outline of the human figure and the combination, or suggestion even, of three lines in the

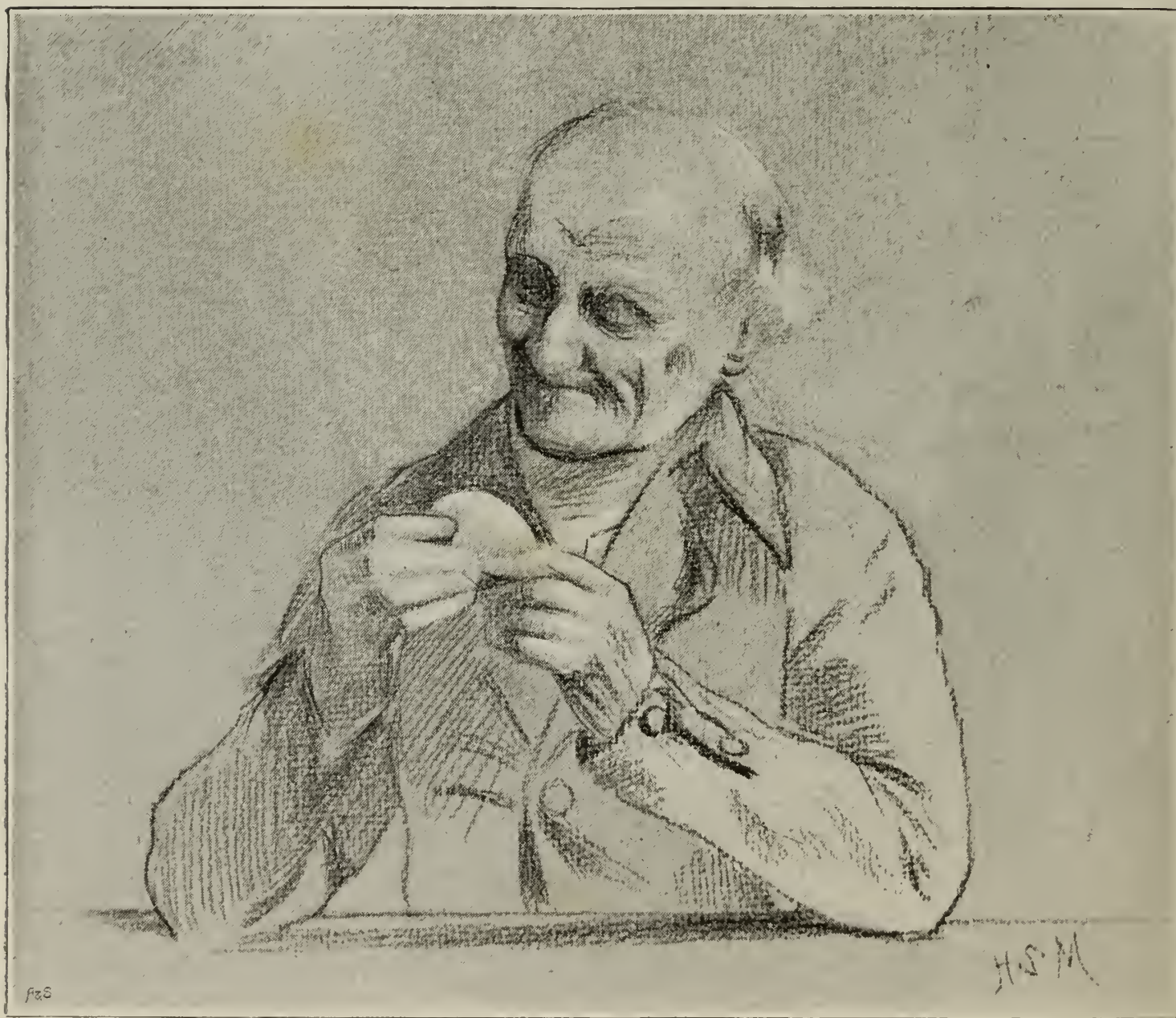


FIG. 106.

convex outline of a muscle gives an impression of strength and firmness that no single curve could suggest. An absolutely pure long curve is seldom, if ever, met with in nature, or anywhere except in machine made articles.

These studies by H. S. Marks, R.A., are full of instruction



FIG. 107.—Drawing in Black and White Chalk on toned paper, by H. S. Marks, R.A.



FIG. 108.—Chalk drawing, by H. S. Marks, R.A.

for us. The two heads of the old egg-collector are delightful in their character and expression. The modelling is very simple and direct, and explains perfectly the three necessary grades of *Light*, *Half Tone*, and *Shade*. The toned paper gives the half tone and white chalk or Chinese white the light. If we are not working on toned paper we must try to get these three grades by leaving the white paper for the lights, making a grey tone for the half tone, and deeper tones for the shades.

There is one point we should carefully note, and that is, that Mr. Marks has *not* put a hard and fast outline all round his heads and figures—they are not fenced in as though they were fields. The eye is allowed some escape into the background, and so a suggestion of atmosphere round the figure is obtained, and also a suggestion of colour. There is just enough modelling in the heads and hands, and not too much. Mr. Marks has, as William Hunt expresses it, looked for the big things first. 1st proportions; 2nd values, or masses of light and shade; and 3rd details that have not spoiled his beginnings. He has given us his first vivid impression of his model, and this has not been weakened by the addition of unnecessary details that would have overcrowded the drawing and cut up the breadth of light and shade.

This characteristic head of a “socialist and fanatic,” as he is styled by Mr. Jacomb Hood, who made the drawing, is a most pleasing and satisfying study in pen and ink. The modelling is thorough, and the execution very clever, and full of lessons for all of us, as it is bold and free, and yet absolutely accurate and descriptive. It is the work of a skilled hand, and a very valuable example of good style and method, and gives us a high standard at which we should aim. The modelling of the old man’s head by Mr. Marks was obtained, as we have seen, by white and black

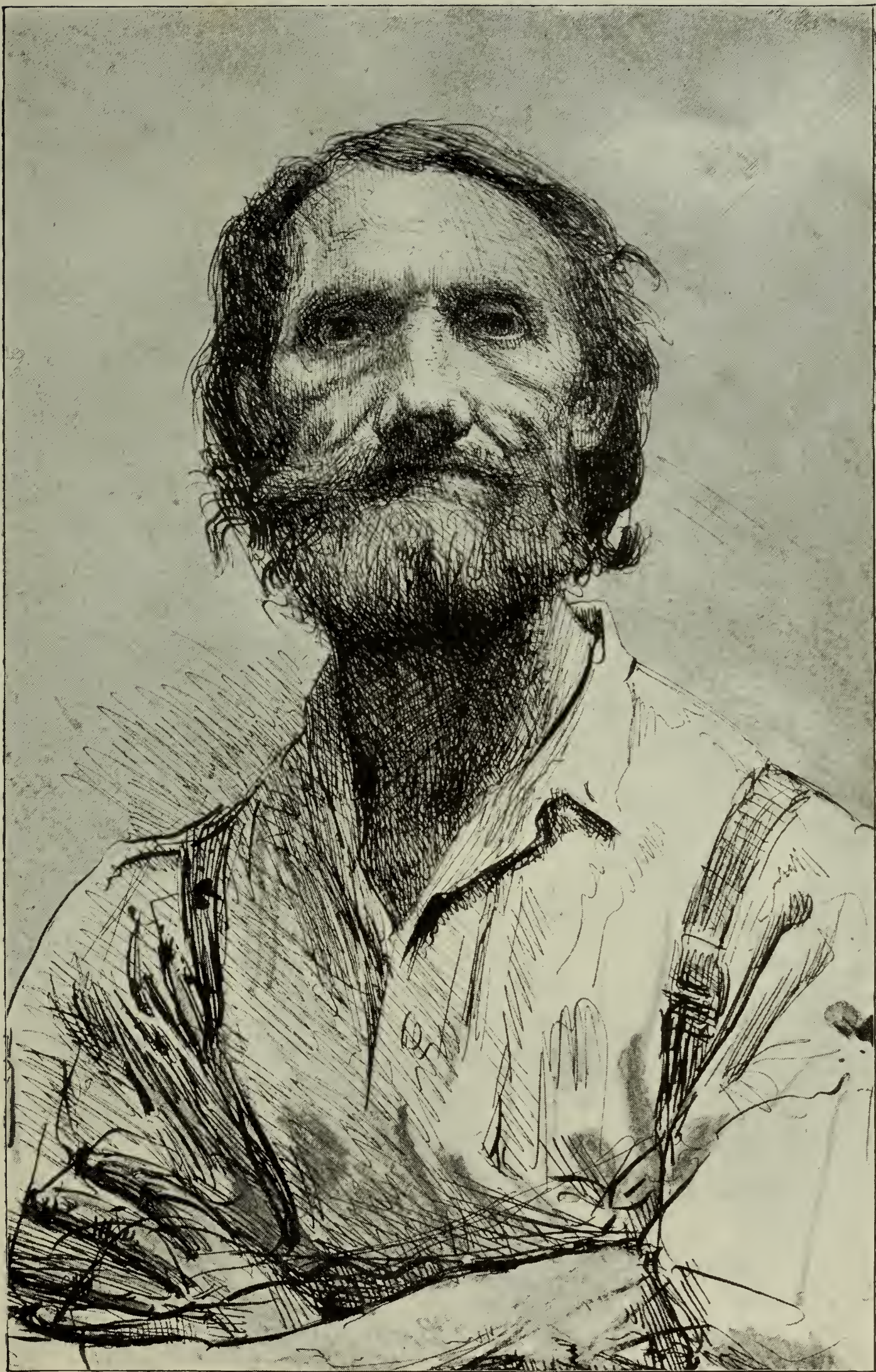


FIG. 109.—Pen-and-ink drawing, by G. P. Jacomb Hood.

chalk on grey paper. The modelling in Mr. Hood's drawing is entirely obtained by pen and ink work on white cardboard. The pencil has been used for the first sketching in of the head and figure.



FIG. 110.—Chalk Study of a Head, by Blake Wirgman.

Mr. Blake Wirgman's drawing of a female face is delicate and refined, and simply treated. The reproduction is of the same size as the original chalk drawing. Evidently the likeness has been faithfully caught and rendered. It is most essentially important to study the character of your model and try to reproduce in your

drawing all the face tells you of that character. A face is an index of mind and feeling, no mere mask, save in few instances. The personality of each sitter must be written in your drawing as clearly as if you were writing his or her biography in words, only your task will be harder than that of an ordinary writer, for you have to invent your alphabet as you proceed, and give with it a legible description of what you see and wish to tell to others.

This drawing of the head of "Thomas Wright, philanthropist," by Mr. Watts, R.A., is a most beautiful one. The modelling is all one could desire; and above all this there comes, as we look at it, an overwhelming feeling that Mr. Watts has caught the soul of his sitter and fixed for us with chalk and paper the gentleness, the peacefulness, and the benevolence of the man. There can be, alas! too often, perfect modelling of features with little indication of the man himself. Character and mind are not displayed in strong and vehement language on the faces of most people. They are told by subtle writing in faint tints and lines, by delicate curves and mere suggestions; and this is unfortunately a secret language we cannot all read and render again. Here a great artist has read the mind and soul of a noble and good man and has known how to write that insight he has gained for us to read here.

Fielding's remark on Hogarth's paintings may be [aptly quoted with reference to Mr. Watts' work.

"It hath been thought a vast commendation of a painter to say his figures seem to *breathe*; but surely it is a much nobler and greater applause that they appear to *think*." It will be apparent to every one that this head of Thomas Wright is full of thought, a mirror of the man himself; not a mere mask of features, but a transcript of the soul behind.

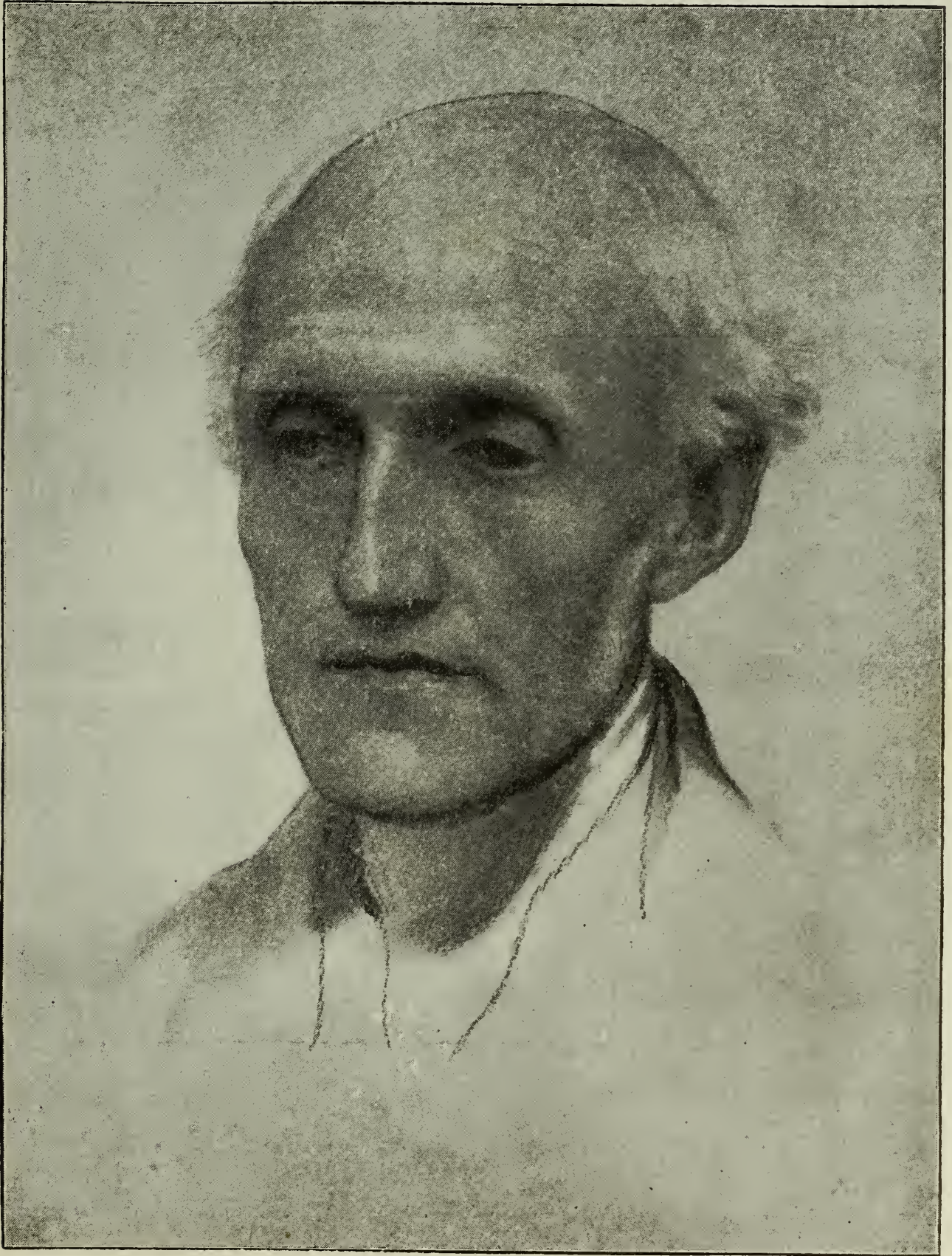


FIG. III.—Thomas Wright, by F. Watts, R.A.

It should be hardly necessary to call the student's attention now to the three principal gradations of light, half tone, and shade, which are so simply and yet distinctly observed in this drawing.

Mr. Hugh Thomson's drawing, "A Clandestine Interview" (frontispiece), is very pleasing, and much may be learned from it. The delicate line work on the white horse is nowhere over done ; it gives most satisfactorily the broad effect of light and shade on a white horse in full light. The picture also gives us many suggestions of colour in its various tones. The whole drawing is well balanced and composed, and its story is well told. The masses of light and shade in the picture are well balanced ; the gradation of tints is harmonious and subtle ; there is no heaviness of treatment ; and though delicate the drawing is nowhere weak.

Here also we may notice the absence of outline, that is, of a complete outline, as a defining partition between different parts in the drawing. To quote again Mr. Ruskin, we can see in this drawing how that even with no outline "if you can put on patches of colour and shade of exactly the same size, shape, and gradations as those on the object and its ground, you will produce the appearance of the object and its ground." Again, we may notice that these patches of light and shade and colour in this drawing have often a blurring or merging of their edges into each other, and by this slight blurring the drawing gains an appearance of reality and atmosphere that it could never have if every object in it was accurately defined by a hard and fast line.

But in making such a drawing for ourselves, although we mean to have ultimately no hard outline, and look forward to slightly blurring our tints here and there, yet we must start with a careful pencil outline of each object, and even of the shadows, &c. This pencil

outline is very necessary as a guide for the pen work and should not be lightly deemed unnecessary by the inexperienced. The pencil work should be faint, so as to be easily rubbed out with bread.

The first consideration in making a subject drawing for ourselves should be the composition or grouping and arrangement of the figures. First, so that they shall form by their arrangement masses and lines that are pleasing and harmonious. There can be no rules given for this composition and arrangement. It is a matter of intuition with good artists and of observation and study with others.

Three or four marbles placed in a row at equal distances apart could not be called a composition, but place them so that some of the marbles meet together and become a small group, whilst perhaps another is solitary, and we get an elementary idea of composition. Do not, if you can possibly avoid it, allow all heads in your drawing to be at equal distances apart from each other ; if possible get some together. Next after the composition of the figures we should think of the balance of the masses of light and dark ; then will come careful pencil drawing of outlines and forms ; and lastly the execution or handcraft part of the work. And be very careful that you do not overcrowd your drawing with unnecessary details—more drawings are spoiled by being over filled than by being under finished.

PEN-AND-INK REPRODUCTIONS

Pen-and-ink drawing possesses a new value now that such perfect reproductions can be made from any drawing as it leaves its maker's hands. The traveller, the discoverer, or the author who can draw, may have his own drawings from nature perfectly reproduced by a mechanical process which repeats accurately every stroke, smudge or dot of the original. From all parts, at home or abroad, quantities of

sketches are daily sent by amateurs to the illustrated papers and magazines, but as they consist for the most part of weak wash or pencil work such papers as the *Daily Graphic* keep a staff of young men who are especially employed in translating these weak productions into suitable pen and ink line work. That this is so should be in itself a reason why all artists and amateurs going out into the world should be able to draw for reproduction. There is a large demand for illustrations for books and magazines and newspapers, and a very remunerative field is open for illustrators of ability.

All that is necessary as to material is very simple—a good *black* ink must be used, and the drawing should be made on *white* smooth paper, or better still on Bristol board. Any pens will really do, ordinary school pens and even the broad nibbed J. For fine work Gillott's crow quill No. 659, is recommended by many. Some artists use instead of a pen a small sable brush from which a good many of the hairs have been cut away; very good line work can be done with such a brush. In most cases the reproduction is reduced in scale and is generally about one-third or one-half smaller than the original. When this is to be the case, as it generally should be, allowance must be made in the line work of the original for this reduction. Much must be left out in the drawing because it would be unnecessary and obtrusive in the reduction. The drawing must not be over-elaborated or the reduction will appear overcrowded and confused. The artist has to keep in his mind's eye the future effect of the reduced copy all the time he is working on the original. When the drawing is only to be slightly reduced less calculation as to the desired effect is necessary. Most artists rely upon the reduction to give their drawings the requisite fineness and delicacy. But the drawings of Sir George Reid, P.R.S.A., and Alfred Parsons prove that it is not necessary to trust to reduction to get fineness,

for their original drawings are little larger than the size of the reproduction.

Clay boards that have a white clay surface are sometimes used. This surface can be removed by scratching with a sharp point. Some artists paint this surface with lamp or ivory black and scrape or scratch out the lights, or paint them in with Chinese white. There is no rule as to what sort of lines it is best to employ, they may be long or short, just as we feel they should be, but every line should have its own work and place as seems necessary, and there should be no unnecessary meaningless lines. Cross hatching should be avoided as much as is possible. It does not seem to reproduce quite so satisfactorily as other line work. Lithographic chalk used on smooth paper will also reproduce by process, and is often used by artists in combination with pen and ink. The drawing should be carefully and delicately made with a fine lead pencil, the shapes of shadows should be drawn and all carefully considered and planned before the pen touches the paper. Should a blot occur it may be erased with some sharp instrument, or as Mr. Pennell recommends, if the paper is too thin to stand the erasing, a piece of paper may be pasted over the blot, carefully joining the lines at the edges. Faulty parts may be also painted over with Chinese white and fresh lines added over the new ground thus obtained, but great care in doing this is required as it is difficult to draw good ink lines over the white paint.

The photo process by means of which the reproduction is made takes no notice of any difference in the tint of the ground caused by the Chinese white—the black lines only are of value. We need not concern ourselves as to the exact way in which the reproduction is made, as the details of the process are to a great extent different in most firms. The general principle is that the

drawing is photographed and etched into a zinc plate, or the drawing is transferred by some process on to a gelatine film, so that the lines are sunk and the parts of the film that are blank are in relief. From this film a cast is made and electrotypes taken from the cast. A photogravure is produced by photographing the drawing on to a copper plate, which is bitten with acid. The process is very similar to that for making an etching. In reproducing a wash drawing or photograph without lines a fine gauze is used which presents minute lines that photography can lay hold of and thus enable a cast or etching to be made.

It will have been seen that the materials for working for pen and ink illustration are few and simple, but we must not from this infer that the work is easy to do. Any one can scribble, but it is only those who can see rightly and approach their work with reverence and a real love for it and nature that succeed. Study carefully the drawings of clever pen men—study their style, observe their mannerisms, take what is good and leave what is bad, and so try to help yourself towards obtaining a right style of work ; a good technical style of your own is what is needed.

Among the old masters, study Albert Dürer, Rembrandt and Vandyke. For modern work, study Sir George Reid, and especially the beautiful penwork of Alfred Parsons, which, fortunately, is so often to be seen in the pages of *Harper's Magazine*. His work is never laboured or overdone, and is always most artistic and true. Study the work of Walter Crane, Joseph Pennell, and Abbey, who is almost the greatest of living pen artists. Of foreign work, study Menzel, Rico, Fortunay.

We cannot help being influenced by the styles of work that appeal to us, but we should try to avoid repeating the especial mannerisms even of those we admire most. Men who do not



HOW OUR GRANDFATHERS DANCED.

FIG. 112.—By Reginald Cleaver.

HOW WE DO NOT DANCE.

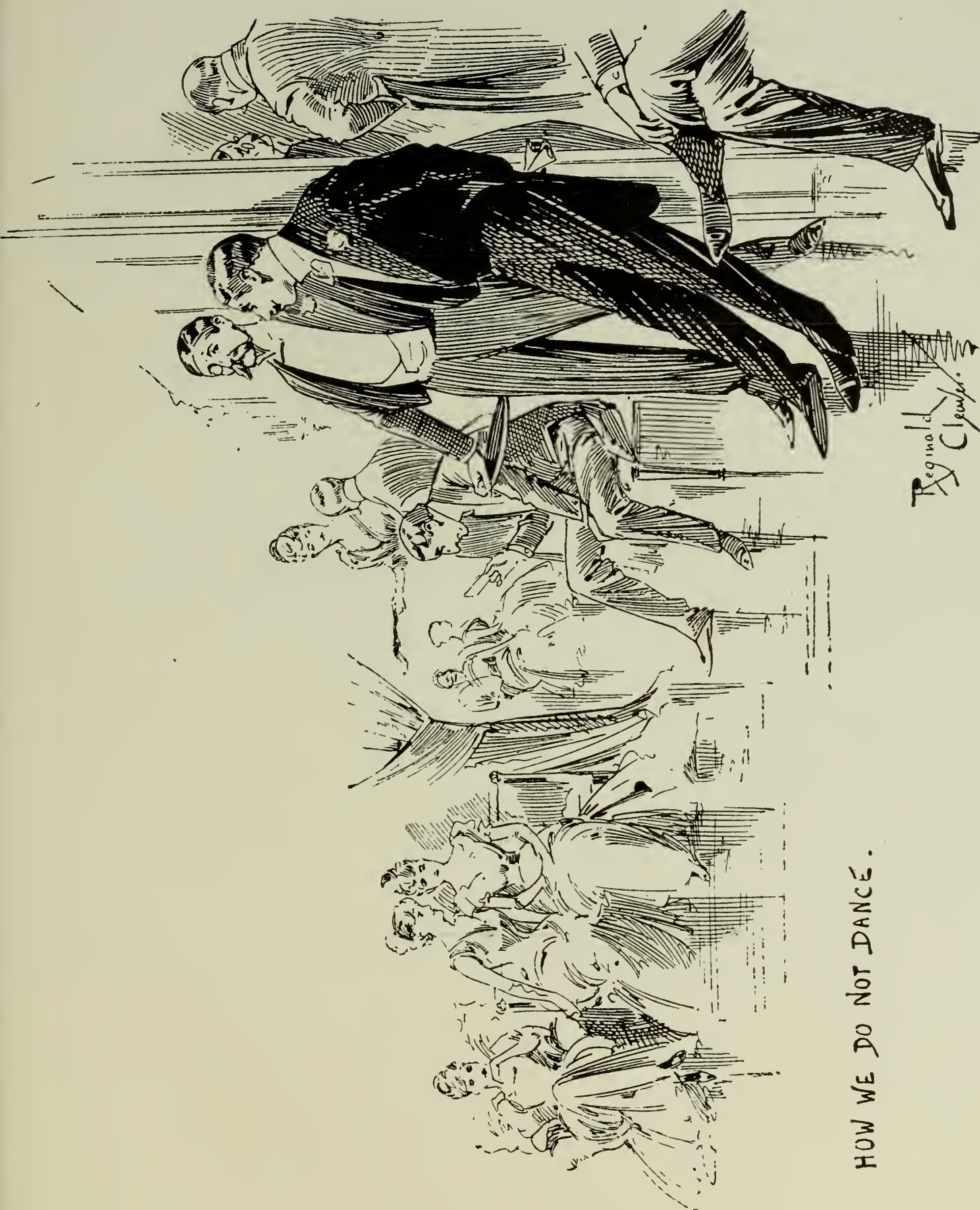


FIG. 113.

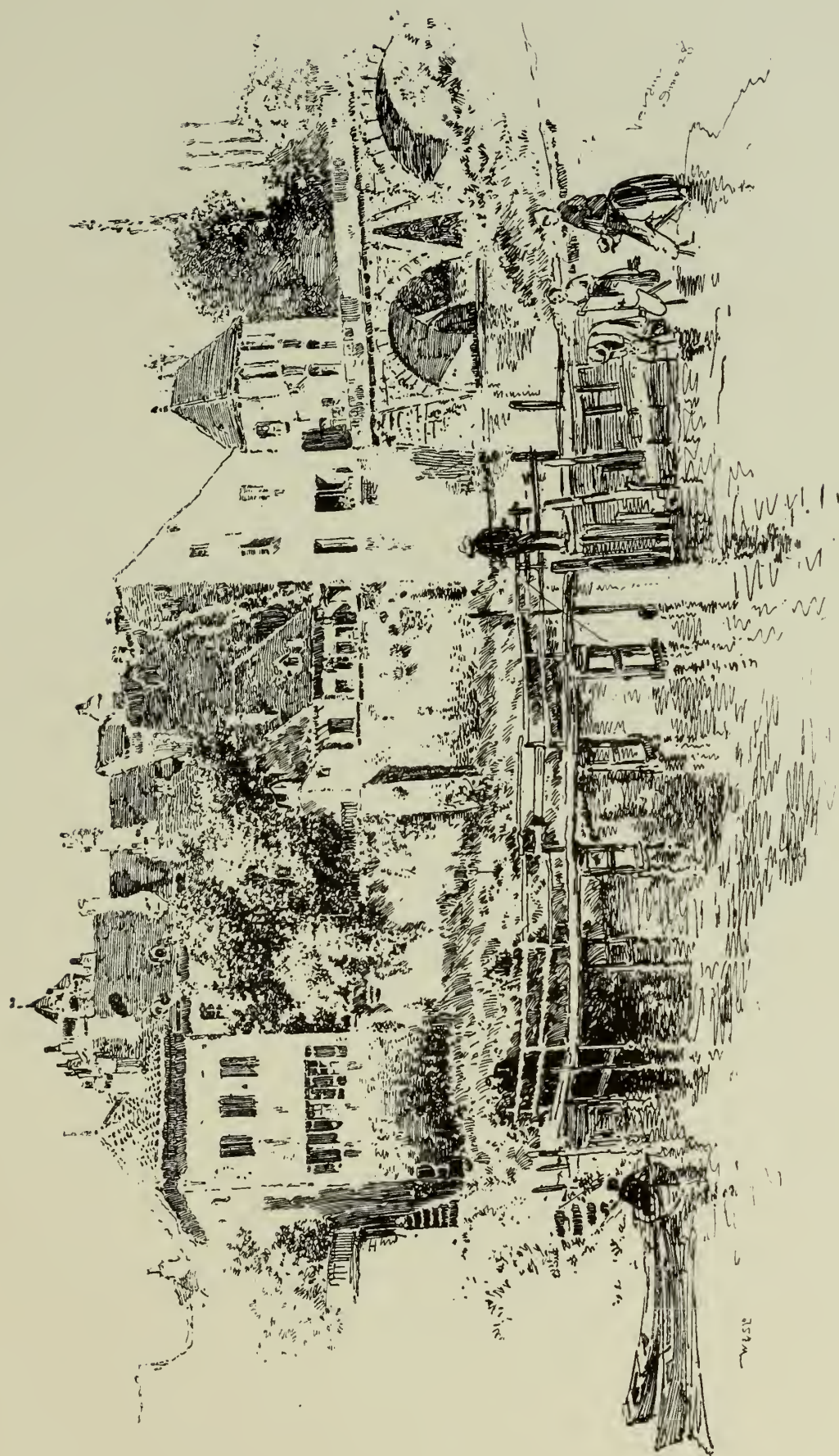


FIG. 114.—Pen-and-ink drawing, by J. Pennell.

always work directly from nature, but from their sketches or photographs, are sure to fall into mannerisms, or habits of representing certain things in a certain way, and seldom vary their manner of doing so. One man's trees, another's buildings, which always appear of the same age, another's invariable sunshine or prettiness of execution—these are all mannerisms, and the artist who goes



FIG. 115.—Pen-and-ink drawing, by J. Pennell.

direct to nature and aims at truth, working only with nature before him, has less mannerism than he who does not. We must also remember that pen and ink cannot express tone as paint or charcoal will; it is work in which our powers of selection must be called into play. There is a great deal in knowing what to leave out. So study all the good work you can; notice how differently

clever men treat the same thing, each with a good result ; then go direct to nature, make a careful pencil study, and then ink



FIG. 116.—Pen-and-ink drawing of a Japanese Jar, by William Strang, R.P.E.

it in, still with nature before you, as reverently and as lovingly as you can, and ere long some meed of success will be surely yours.

Mr. Reginald Cleaver's drawings are given as good specimens of work especially adapted for newspaper illustrations. They are very clever drawings and very direct and simple in treatment.

Mr. Pennell's drawings are always made especially for book illustration, and are perfect in their way. The original drawings were about three times the size of these reproductions; a magnifying glass would be useful in giving the student an idea of the boldness of the original drawings.

The real difficulty is to get *refinement* of the forms and *evenness* of the gradations.—
RUSKIN.

The main thing is to express broadly and simply; hiding our doing, realizing representation, not reproduction.—GEO. FULLER.

There is no general way of doing *anything*; no recipe can be given you for doing so much as the drawing of a cluster of grapes.—RUSKIN.

Great painters insist on gradation, the law of which governs values, tone, and harmony, so no detail must interfere with its truth.—GEO. FULLER.

Rather leave too much room for the high light than too little.—RUSKIN.

Resolve always as you look at the thing, what you will take, and what miss of it, and never let your hand run away with you, or get into any habit or method of touch.—RUSKIN.

If you will not look at what you see, if you try to put on brighter and duller colours than are there, if you try to put them on with a dash or a blot, or to cover your paper with "vigorous" lines, or to produce anything, in fact, but the plain, unaffected, and finished tranquillity of the thing before you, you need not hope to get on. Nature will show you nothing if you set yourself up for her master. But forget yourself, and try to obey her, and you will find obedience easier and happier than you think.—RUSKIN.

The aim of the student is, or should be, very simple. He must learn to imitate nature.—JOHN COLLIER.

The highest artistic imagination is useless without the means of expressing it.—
JOHN COLLIER.

The eye should be trained to observe the beauty of all manner of simple things, so that you may increase the value of life.—WILLIAM BLACK.

Avoid the picturesque as tending generally to inaccuracy.—P. G. HAMERTON.

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